

## WESTINGHOUSE NAMES JUDGES FOR CONTEST

MANSFIELD, Ohio.—Judges of the Westinghouse refrigerator dealer window display contest, which closes March 25, have been announced by C. E. Allen, commercial vice president of Westinghouse Electric & Mfg. Co.

Besides Mr. Allen, the judges are: L. W. Staunton, merchandise advertising manager of the Westinghouse Co., and A. L. Billingsley, president of Fuller & Smith & Ross, Inc., national advertising agency.

The size of the window in which the display is featured, the general attractiveness and originality of the exhibit, and the general appeal carried by the display, will be factors in the decision of the judges.

Basis for the displays will be the February issue of the Westinghouse 1932 Window Display service. It is a lithographed cutout in eight colors, showing the two watchmen (Dual-Automatic) and the pictured housewife who appears in February magazine advertisements.

Incorporated in the display are the phrases "Only the Westinghouse is Dual-Automatic," and "Pays for itself . . . Make us prove it."

## LUNCHEON SET OFFERED BY MAJESTIC DISTRIBUTOR

PHILADELPHIA.—Majestic electric refrigerator dealers in this territory were authorized by the distributor, Peirce-Phelps, Inc., during January and February to offer free a 45-piece luncheon ensemble with each sale of a Majestic refrigerator.

The ensemble included: a table, 40x47 in. when opened, with automatic disappearing leaves, porcelain top, with ivory and green finish; two chairs to match the table; a 42-piece set of china in ivory with gold trim, consisting of meat platter, vegetable dish, sugar bowl, creamer, dinner plates, soup plates, butter plates, dessert dishes, cups, and saucers.

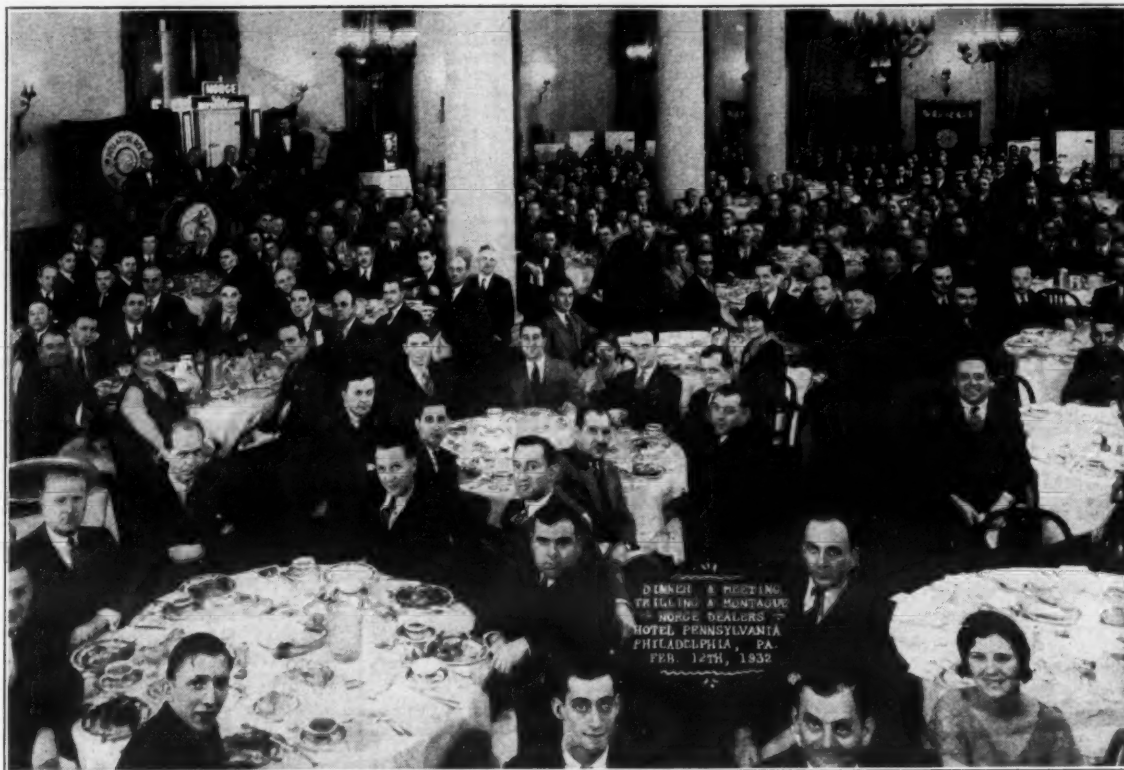
Estimated value of the entire ensemble was \$35. Advertisement of the special offer, which was designed by the distributor to start the spring turnover of refrigerators earlier than usual, was made through handbills and newspaper display. Each dealer displayed the premium offer in his windows.

## STARR-FREEZE DEALER OPENS SPRINGFIELD, MASS., STORE

SPRINGFIELD, Mass., March 1.—The Gibbs Electric Co. today opened a store at 274 Dwight St. for the sale of Starr-Freeze refrigerators.



## Trilling & Montague Forces Get Together



Members of the sales staff of Trilling & Montague, Norge dealer in Philadelphia, met recently at a banquet held by that organization.

## How To Get Prospects

As Told By M. A. Rowley, Organizer for Utilities Plan

BOULDER, Colo.—Carrying out a well-organized sales promotion idea, the Public Service Co. of Colorado has enlisted a force of 1,500 men and women—employees of nearly every division of the company who have entrance to practically every home in Denver—to aid in securing prospects for the sale of electric refrigerators.

The plan, originated by G. B. Buck, general business manager, has been so successful that company heads have endorsed its acceptance as a permanent method of securing prospects.

By the plan, hundreds of accountants, linemen, meter-readers, technicians and office employees are converted into salespeople. While carrying on their individual work they assist in increasing sales by constant observation of friends who may become prospects.

The idea is known among employees as the "tip-bonus plan," and is supervised by Melvin A. Rowley.

Printed cards with space for the listing of prospects are placed in convenient spots where employees gather. There are 37 card-containing boxes situated in strategic positions about the plant, warehouse and office building.

The card reads "Prospect For . . ." and "make separate card for each ap-

pliance." This latter phrase is necessary because appliances other than refrigerators are sold by the company.

Everyone in the company, excluding salespeople only, is eligible to participate in the plan. To simplify the innovation, detailed instruction was given at the beginning.

Now, as a result of this alert army, legitimate prospects are having considerable difficulty escaping approaches from the various employees enlisted by Mr. Buck.

Electricians, wiring a newly-built house, are aware of the possibility of a refrigerator sale. Gas-fitters in an established home witness the absence of a refrigerator with the same interest of a traffic cop noticing a one-armed driver.

Installation and repair men operating in homes of moderate means are equally vigilant.

Men and women in the contract department, the great force of employees who daily meet hundreds of home-owners and apartment-dwellers, learn whether each person entering the doors is in the market for a machine. Lastly, employees having after-party suppers in their hosts' kitchens do not take long to discover if a sale confronts them.

"However," says Director Rowley,

"when an employee runs across a prospect, he doesn't bring out a little book and embark upon a sales message."

Cards made out by the employees are sent directly to the sales and promotion department. Within a day or two, an experienced member of the sales force is interviewing the prospect. According to Mr. Rowley, one out of every six is an immediate buyer, while the remainder are indexed as potential sales and often sold at a later date.

The individual who turned in the tip is notified as to whether or not a sale has been made. If the prospect refused to buy, the "tipster" is exhorted not to permit this to dim his belief in future prospects he might discover.

If a sale is consummated, the next pay day he will be given a separate bonus check of three dollars, the fee paid for every single tip that results in a sale.

The separate check idea has been found to be of psychological value, since it stimulates a sense of accomplishment in the bearer's mind, whereas one check with the added three dollars would deliver no such effect.

"The cash bonus is by no means the only inducement for employees to enter into this plan," says Mr. Rowley. "Employees, many of whom are shareholders of Public Service and Cities Service stock, are reminded that every sale helps the corporation's earnings and that the company's revenue expands simultaneously. It also means better salaries and increases shopwork and merchandise sales. These factors assist in bringing about effective cooperation."

## CONFERENCE STUDIES POWER CO. SELLING

PORTLAND, Ore.—Delegates to the seventh annual mid-winter conference of the commercial section of the Northwest Electric Light and Power Association heard many features of the merchandising end of the business, with particular attention to the relation of utility company's sales activities to those of retail dealers and other sales organizations.

It was brought out several times during the discussions that the utilities are in the appliance business primarily to increase the electric load in the residential districts, and not to make any monumental profits from the appliance sales themselves.

### Gadsby Speaks

On the second day of the conference, G. M. Gadsby, regional director for the refrigeration bureau, Salt Lake City, was the first speaker, presenting a treatment of the refrigeration business plans to advance sales during the year.

He touched upon hoarded money and said that in many families the money was to be obtained if the family could first be sold upon the necessity of electric refrigeration as one of the necessities of present-day housekeeping. Further, he said, money put into household equipment and furniture will now go further than for many a day and having been thus spent it will not be lost no matter what happens.

After Mr. Gadsby's talk, Glenn L. Jackson of Medford, section chairman, who presided, turned the meeting over to R. B. McElroy of the Washington Water Power Co., Spokane, Wash., chairman of the merchandising bureau.

During this part of the day's program V. H. Moon, Pacific Power & Light Co., Portland, Ore., chairman of the electric range committee; B. A. Hall, Pacific Power & Light Co., Portland, Ore., chairman of the electric water-heating committee, and A. W. Brainard, Idaho Power Co., Boise, Idaho, chairman of the general merchandising committee, reported.

### Brown Makes Report

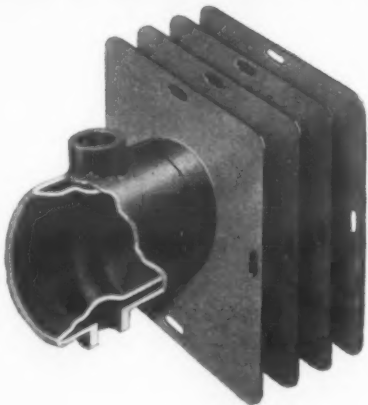
A. A. Brown, sales manager for the Oklahoma Gas & Electric Co., Oklahoma City, forwarded a report.

A market analysis is the thing most needed, G. C. Tenney, editor of the *Electrical West*, San Francisco, told the convention. Such an analysis is the first step in a marketing program, and the advertising and sales promotion work is of little value unless the dealers know what they are going to sell and to whom.

Mr. Tenney told the convention that there was \$22,500,000 worth of potential business per 100,000 consumers of electrical energy on the west coast, and that the big problem was to sell the market to the trade.

H. S. Rogers, dean of the school of engineering, Oregon State College, Corvallis, Ore., spoke during the afternoon on "Possibilities in Utilization Research," and H. O. Hussong of the California-Oregon Power Co., Medford, presented a paper on "Value of the Kilowatt Hour—a Study From an Accounting and Engineering Viewpoint."

## HYDRO-THERMAL GRIDS



"Tube-within-a-tube"

The surface in contact with the gas is as important as the area of the fins

No coil or fin tube unit can absorb heat faster than it can transfer heat to the refrigerant. In selecting an evaporator, be sure of its capacity to get rid of absorbed heat.

HYDRO-THERMAL GRIDS have fins of heavy steel, forced on the tubes by hydraulic pressure, insuring close contact and rapid heat transfer. Steel-on-steel construction prevents unequal expansion and keeps the fins tight on the tube. It also prevents corrosion which would occur between two dissimilar metals. The tube-within-a-tube design spreads out the refrigerant in contact with the large surface of the inner tube.

These features of construction give Hydro-Thermal Grids their amazing heat-absorbing capacity.

**AMERICAN ENGINEERING COMPANY**  
2420 Aramingo Ave., Philadelphia, Pa.

## LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other materials recently issued.

Manufacturers are requested to send copies of new trade literature to Electric Refrigeration News.

### Frigidaire Refrigerators

A new series of mailing pieces designed to help the salesman of commercial refrigeration has been put out by Frigidaire Corp. A general folder of the large window-poster size tells the story of Frigidaire equipment for all commercial use.

Still another is designed to appeal to florists, meat cutters, and grocers, giving the reasons—"Eliminates spoilage loss, builds greater patronage, reduces cost of perishables, permits attractive display"—for buying Frigidaire refrigeration.

A third appeals to the meat market owner, and states that electric refrigeration helps his quality, enables him to buy at quantity prices, aids attractive display, and offers his customers greater variety.

A fourth is aimed at restaurant owners, a fifth at florists, and a sixth at buyers for universities and schools.

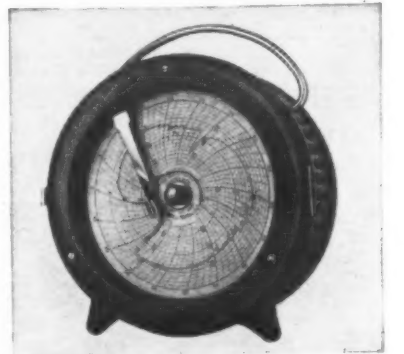
To supplement these, small leaflets are available for meat markets and restaurants to be handed to customers, giving the message "We buy only the finest quality meats and keep them safe and fresh in Frigidaire," and "When you patronize our restaurant you know that the foods you order are kept fresh and wholesome by Frigidaire" respectively.

A four-page folder announces the new line of expansion type cooling coils for commercial refrigeration, to be installed in display cases, short order boxes, pantry refrigerators, etc.

## Paves the Way to refrigerator sales

EVERY housewife wants to know whether the temperatures in her ice-box are consistently low enough for the safe preservation of food. She won't take chances with the health of her family. Just show her that temperatures are often above 50°F. and she becomes interested in MODERN refrigeration.

Here's the way to prove exactly what the temperatures in your prospects ice-box really are. Place BRISTOL'S handy little Model 144 Temperature Recorder on a shelf in the housewife's ice-box. Take it out at the end of 72 hours, and show the chart record of the temperatures during the period. It is



unbiased and convincing. It is the most powerful sales help available to a mechanical refrigerator salesman.

Get complete information about it. Send for Leaflet No. 381 NOW.

THE BRISTOL COMPANY, WATERBURY, CONNECTICUT  
Branch Offices: Akron, Birmingham, Boston, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco

**BRISTOL'S**  
TIME AND TEMPERATURE RECORDERS *for Refrigerators*



WRITTEN TO BE READ  
ON ARRIVAL

## Merchandising Section

IN TWO PARTS  
PART ONE

# ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

ISSUED EVERY WEEK  
VOL. 6, No. 27, SERIAL No. 155

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THREE DOLLARS PER YEAR

## C. EDISON, FISHER WILL BROADCAST ON BUREAU HOUR

Refrigeration Subject of  
NBC Program  
Saturday

NEW YORK CITY, March 9.—Charles Edison, president of Thomas A. Edison, Inc., and son of the famous inventor, and Miss Katharine Fisher, director of Good Housekeeping Institute, are the speakers chosen for the Electric Refrigeration Bureau broadcast over the NBC Blue network Saturday, March 12.

J. E. Davidson, chairman of the bureau, will speak on electric refrigeration as a part of the program.

The broadcast will be from 5:15 to 5:45 p. m., Eastern Standard Time, and will consist of talks and music. Local bureaus will tie in with the broadcast program by means of newspaper advertising.

The America-at Work organization, which is sponsoring the program, is "a non-profit, non-political movement in which industrial organizations and civic service clubs cooperate in a program of public service. America-at Work aims to acquaint the people of the nation with facts about industry—news not readily obtainable from ordinary sources."

Gilbert Gable, head of the movement, will announce the program, which will come over the following stations: WJZ, (Concluded on Page 4, Column 5)

## EXHIBITION FEATURES REFRIGERATION UNITS

DETROIT—Electric refrigerators occupied greater exhibit space than any other single piece of home equipment merchandise at the recent annual Detroit Builders' Show which was attended by thousands of homemakers.

A dozen makes of electric refrigerators were on display at the exposition. A number of oil burners, electric ranges and air conditioning systems, as well as practically all the leading makes of radios, were also shown.

The 12 refrigerators and the companies which exhibited them are as follows:

Servel, Grier-Sutherland; Frigidaire, (Concluded on Page 4, Column 4)

## KELVINATOR COMMERCIAL MEN ENTER SALES CONTEST

DETROIT, March 7.—Kelvinator commercial salesmen today entered their second week of the Kelvinator Business Builders' Contest, of which the first campaign closes April 30.

With each commercial sale during the Business Builders' Contest, which lasts a whole year, the salesman will be given a "bill of sale" to that property. At the end of the contest, winners will be determined on the basis of total value of bills of sale.

The contest has been divided into a number of smaller contests, the first of which, the meat market campaign, closes April 30. All meat market installations sold during this period merit a bill of sale for double the value of the installation. All sales other than meat markets will be credited at exactly the invoiced amount.

Prizes on the whole contest are: first, \$150 in cash; second prize, \$100 in cash; third, \$75; next five winners, \$50; next (Concluded on Page 4, Column 4)

## WANAMAKER MADE SENTINEL SALES PROMOTION HEAD

CHICAGO—Duane Wanamaker, who was for five years vice president and advertising director of the Grigsby-Grunow Co., has joined the United Air Cleaner Corp., which manufactures Sentinel radios and automotive equipment, as sales promotion manager.

In addition to his duties as sales promotion manager, Mr. Wanamaker will do both sales and publicity work for Sentinel radios.

## Norge Shows 200% Sales Gain in February

DETROIT—February sales of Norge refrigerators were 200 per cent greater than for the same month of 1931, according to a report by Howard E. Blood, president of Norge Corp.

Mr. Blood's statement said: "Formation of the Reconstruction Finance Commission and the loosening of Federal Reserve credits is impressing the people with the futility of hoarding and thus begins to release the 1,500 millions of dollars that were taken from circulation. A national rally is noticeable."

## GEORGIA POWER CO. SET FOR G. E. DRIVE

ATLANTA—The Georgia Power Co., principal utility outlet for W. D. Alexander Co., General Electric refrigerator distributor in this territory, has completed plans for a "Spring Offensive" in connection with the General Electric refrigerator department's Monitor Top War Campaign.

The power company's campaign, the largest of the year and which is expected to result in approximately \$1,000,000 worth of business—based on last Spring's results—will start about April 27 and will run for 10 weeks. In per capita coverage this utility ranks among the highest General Electric refrigerator outlets in the nation.

O. M. Jackson, merchandising manager outside of Atlanta, and I. H. Morehead, manager of local merchandising, (Concluded on Page 4, Column 1)

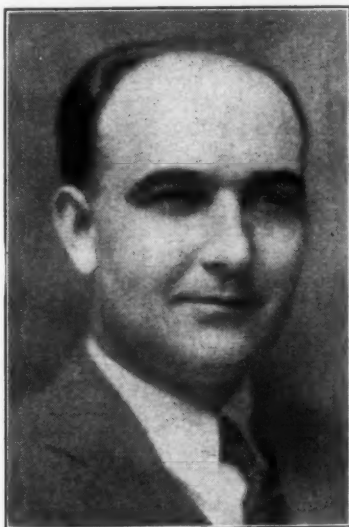
## SEARS, ROEBUCK ANNOUNCES ESSAY CONTEST

CHICAGO—An essay contest with prizes of \$4,914 to be awarded, opened March 3 to advertise the Coldspot electric refrigerator, product of Sears, Roebuck & Co. The contest closes March 19.

"What Feature of the New Coldspot I like Best—and Why" is the subject to be treated in the essays. Contestants are required to call at a Sears, Roebuck store for official contest blanks in order to enter the competition.

First prize will be \$2,000 in cash; second, \$1,000; third, \$500; fourth, \$300; fifth, \$200; and sixth, \$100. The next 11 prizes will be of \$25 each; the next 26, each \$10; the next 50, each \$5, and the last of the 125 prizes, each \$2.

## Advances



HARRY NEWCOMB  
Promoted by Copeland Products, Inc.

## Sparton Appoints 3 Representatives In Field

JACKSON, Mich.—Earl R. Brower, sales manager of the refrigerator division of the Sparks-Withington Co., Jackson, announces the appointment of Harley Wall, C. W. Findlater, and L. J. Melvin as field representatives of his division. Keith Roberts, he reports, has been named as Sparton district representative for the western states.

Approximately 40 distributors have been appointed to handle the Sparton electric refrigerator, according to Mr. Brower.

Among the new refrigeration distributors are the following: Bushwick-McPhillben Co., New York City; Carbine-Harang Machinery Co., New Orleans, La.; Coast Radio Supply Co., San Francisco; Goetze-Ryan, Inc., Kansas City, Mo.

Halsey Supply Corp., Newark, N. J.; Motor Power Equipment Co., St. Paul, Minn.; New England Distributing Co., Boston; Ohio Radio Wholesale, Inc., Cleveland; Pacific Wholesale, Inc., Los Angeles.

Toledo Radio Co., Toledo; Young, Lorch & Richardson, Chicago; and the Automobile Sales Co., Memphis, Tenn.

## Zimmerman to Talk On G. E. Radio Program

CLEVELAND, March 9.—P. B. Zimmerman, manager of the General Electric refrigeration department, will give a message to housewives on new lower prices, and to salesmen on the opening of the "War of Refrigeration Against Sales Resistance," as a part of the General Electric radio program Monday.

The broadcast will be made at the regular time, 12 noon, Eastern Standard Time.

Zero hour in this newest Monitor Top campaign is sunrise, Monday. All quotas will be known as objectives, and everyone has been assigned a definite objective in advance. Objectives will be figured in cubic feet of refrigeration instead of units.

Only new refrigerators sold on a bona (Concluded on Page 4, Column 3)

## NEWCOMB PROMOTED ON COPELAND STAFF

MT. CLEMENS, Mich.—The appointment of Harry Newcomb, for the past three years service manager of Copeland Products, Inc., as assistant sales manager in charge of commercial sales, and of George C. Licence, for two years assistant service manager, as service manager to succeed Mr. Newcomb, was announced March 1.

Mr. Newcomb came to Copeland in 1928. He was connected with the inspection department and later became assistant service manager and service manager. Mr. Licence joined the Copeland service department in 1928, becoming assistant service manager in 1930.

## ILLINOIS REFRIGERATOR MAY PAY 30% TO CREDITORS

MORRISON, Ill.—To avoid possible bankruptcy, the Illinois Refrigerator Co. is asking creditors to accept 30 cents on the dollar in full settlement of their accounts.

If this arrangement is acceptable to 90 per cent of the creditors, payment will be made within 10 days, according to officers of the company.

Roger B. Keeney, chairman of the creditors' committee, declares that after a personal investigation he believes the offer fair, and that the arrangement has the approval of the creditors' committee.

## FRIGIDAIRE CUTS PRICES ON ALL HOUSEHOLD UNITS

3-year Guarantee for  
Commercial Line  
Announced

DAYTON—Sweeping price reductions to household customers have been announced by Frigidaire Corp. The lowest priced model, the ML-4, is now listed at \$130 at the factory.

At the same time, Frigidaire announced a three-year guarantee on all its commercial products, including its new line of air conditioning equipment. Prices on air conditioners also were cut.

Having rolled this heavy artillery into action, factory representatives this week are blasting away on all fronts. Four convention crews, primed through two weeks of steady rehearsals, are in action and already the story of the Frigidaire program for 1932 is being told to thousands of dealers and salesmen through Spring Rallies now in progress.

The reductions in the prices of all household models were made as a result of a nation-wide survey which indicated there are hundreds of thousands of persons who would like to own Frigidaires but have deferred actual purchases because of price, according to H. W. Newell, vice president in charge of sales.

"The entire line of household Frigidaires have the same storage space, the (Concluded on Page 4, Column 5)

## ELECTROCHEF NAMES WESTERN SALES HEAD

DETROIT—Louis R. Swenson of Los Angeles, has been named western district sales manager for Electrochef ranges, according to word received at the office of Electromaster, Inc., from A. H. Jaeger, general sales manager, who is on an extended trip establishing distributorships on the West Coast.

Mr. Swenson joins Electromaster with a 15-year record as a merchandiser of electric ranges and other major appliances on the Pacific Coast.

With the appointment of Mr. Swenson the sales force for Electrochef ranges is exactly doubled over the force which was employed a year ago. Mr. Jaeger's trip to the west is one of the moves in Electromaster's program for gaining national distribution in 1932.

## HOTPOINT RANGE SUBJECT OF MEETING IN NEWARK

NEWARK, March 8.—The first convention on the subject of General Electric Hotpoint ranges in this area will be held March 17 in the Hotel Suburban, East Orange, N. J., by Philip H. Harrison & Co., General Electric distributor.

Patterned after the General Electric refrigerator conventions held each spring for the last five years, the range meeting program will be furnished by a troupe from the Edison General Electric Appliance Co., Chicago, directed by W. B. Pierce, district representative, and M. H. Beekman, manager of retail sales.

Visits to the General Electric model kitchen in the East Orange showroom will be a part of the program. Dealers now handling Hotpoint ranges, prospective dealers, public utility officials, and salesmen will be present. About 500 are expected to attend, according to D. B. Collins, range sales manager.

## MULLINS, MANUFACTURER OF EVAPORATORS, DIES

SALEM, Ohio, March 9.—William H. Mullins, founder of Mullins Mfg. Corp., manufacturer of Mullins porcelain-steel evaporators and automotive parts, died Sunday at his home here.

Mr. Mullins, who was 76 years old, had been inactive in company business for the past 10 years and had devoted his energies to the support of philanthropies.

The funeral services were held today at the Salem Memorial building, which he gave to the city.

## Sparton Signs Up New Distributor



W. W. Crosheron, new Sparton distributor in Salt Lake City, talks with factory officials. Left to right: Harry G. Sparks, Mr. Crosheron, Earl R. Brower, Keith Roberts, and E. T. H. Hutchinson.



## RAFF CO. SIGNS 27 MAYFLOWER DEALERS

HARTFORD, Conn.—The Frederick Raff Co., distributor of Mayflower refrigerators for Connecticut and central Massachusetts, has recently signed up 27 dealers in the territory.

These dealers are: Sage-Allen Co., Hartford, Conn.; C. S. Daily, Bristol, Conn.; Duncan & Goodell Co., Worcester, Mass.; Luby Electric Co., Wallingford, Conn.; John Wrona, Indian Orchard, Mass.; A. Grezel, Manchester, Conn.; Gillespie Hardware Co., Norwalk, Conn.; L. R. Ladd, Bloomfield, Conn.; Windham Electric Co., Willimantic, Conn.; Devco Radio Co., West Haven, Conn.; L. A. White, Rockville, Conn.; A. J. Deslauriers, Chicopee Falls, Conn.; Sumway & Riley, Northampton, Conn.; John F. Robinson, Ware, Mass.

O'Leary Plumbing Co., Holyoke, Mass.; Morgan and White, Groton, Conn.; Bacon Bros., Middletown, Conn.; Hurteau Furniture Co., Willimantic, Conn.; Ellis & Slavan, East Hartford, Conn.

Brunett & Selkirk, South Hadley, Mass.; John J. Barry, Bethel, Conn.; Henry E. Dick Co., Danbury, Conn.; Simon Furniture Co., Terryville, Conn.; Jem Electric Co., New Haven, Conn.

## REPUBLIC RADIO CO. NAMED ELECTROCHEF DISTRIBUTOR

DETROIT—The Republic Radio Co., of Detroit and Grand Rapids, has been signed to distribute Electrochef ranges in western Michigan, according to Gerald Hulett, sales promotion manager of Electromaster, Inc.

The company also distributes Norge electric refrigerators. A. H. Zimmerman and C. C. Christianity are officials of the Republic Radio Co.

## Gibson Continues Dealer Conventions



The meeting above was held in the Faust Hotel at Rockford, Ill., under the direction of the Gibson distributor, Conron Distributing Co., Peoria, Ill. Representatives from the Gibson Electric Refrigerator Corp. attended.

## No Ice Men in Jail

POUGHKEEPSIE, N. Y.—The new Dutchess County jail was equipped with electric refrigeration "because an ice man is a stranger, and strangers are not wanted roaming inside the jail," according to William J. Beardsley, who designed the structure.

Three General Electric units have been installed. A large walk-in cooler takes care of kitchen supplies.

## NASHVILLE FIRM APPOINTED KELVINATOR OUTLET

NASHVILLE, Tenn.—The Nashville Machine & Supply Co., covering 30 counties in middle Tennessee, has taken a commercial distributor's franchise for Kelvinator electric refrigerators, according to recent announcement.

The company has been distributor of Frick Co. refrigeration for the last five years, and will continue to handle that line.

M. T. Gossett is sales supervisor for Kelvinator in Nashville territory.

## Utility Men Plan To Hold Forum

NEW YORK CITY—Plans for a forum of more than 100 utility experts to provide "an exchange and dissemination of views on regulatory principles and practices" relating to public utilities, were inaugurated here recently, according to Morris L. Cooke, trustee of the Power Authority of the State of New York.

The meeting is sponsored by 12 public utility men, and is scheduled to be held here April 8 and 9.

"The movement," said Mr. Cooke, "was accelerated in part by the action of several members of the National Association of Railroad and Utilities Commissioners in declaring in a recent public statement their fear that 'regulation in the several states is being seriously imperiled by the conduct of the affairs' of the national association."

"In that statement they further stated that the association must change its course or there was no alternative except withdrawal from membership."

Letters have been sent inviting more than 100 persons to attend the meeting. Sponsors of the movement are: Henry C. Atwill, Boston, chairman of the Massachusetts Public Utilities Commission; Morris L. Cooke, Philadelphia, trustee of the Power Authority of the State of New York, and former director of the Giant Power Survey of the Commonwealth of Pennsylvania.

Harold Evans, Philadelphia, former member of the Pennsylvania Public Service Commission; Felix Frankfurter, Cambridge, Mass., professor at Harvard Law School; John H. Gray, Washington, D. C., past president of the American Economic Association.

Clyde L. King, Harrisburg, Pa., secretary of Revenue of the Common-

## HEARING ON PUZZLE CONTEST BILL HELD

WASHINGTON, D. C.—Advocates and opponents of the bill to declare illegal the use of puzzle contests, naming contests, prize offers, or other forms of competition for prizes to secure mailing lists, appeared before the House Committee on Post Offices and Post Roads, Feb. 26.

The postmaster general, Walter F. Brown, opposes the proposal, according to a letter which said, "The bill would make unmailable all matter relating to the classes of schemes enumerated, and also make it a criminal offense to send such matter through the mails."

### Postmaster's Opinions

"It is my view that the Post Office Department should not undertake to regulate, by excluding from the mails matter relating thereto, a business enterprise unless the element of fraud or lottery is present."

"Apparently this bill is not aimed at schemes embracing such elements, as there are already on the statute books postal laws covering such enterprises. I am therefore not in favor of the non-mailable phase of the bill."

"Whether the matters covered in the bill are of sufficient importance to warrant the enacting of a law making it a penal offense to use the mails in connection therewith is a question of legislative policy for the determination of Congress."

### Appear Before Committee

Among those who appeared before the House committee were: Charles J. Herson, New York attorney, who favored eliminating newspapers from the provisions of the measure; Theodore Arter, Jr., editor and publisher of the *Publishers Service Magazine* and the *Altoona, Pa., Tribune*, who voiced a similar opinion.

George F. Peabody, editor of the *Specialty Salesman Magazine*, favored the bill; Elisha Hanson, Washington, D. C., representing the American Newspaper Publishers' Association, opposed the bill, but agreed with Mr. Herson on newspaper exemption if the measure is enacted.

Sanford Wilson and L. M. Grafe, both of Hollywood, Calif., representing the Hollywood Marvel Products Co., opposed the bill, and William L. Daly, secretary of the American Publishers' Conference, opposed the measure.

wealth of Pennsylvania; David E. Lillenthal, Madison, Wis., member of the Wisconsin Public Service Commission; Dr. Milo R. Maltbie, New York City, chairman of the New York Public Service Commission.

Prof. William Z. Ripley, Boston, member of the department of economics of Harvard University; Clyde L. Seavey, San Francisco, chairman of the California Railroad Commission; Frank P. Walsh, New York City, chairman of the Power Authority of the State of New York and member of the recent commission on Revision of the Public Service Law, and George W. Woodruff, Harrisburg, Pa., member of the Pennsylvania Public Service Commission.

## How To Sell Refrigerators

As Practiced By Mrs. Knight, G.E. Saleswoman

By Gertrude Stanton

LANSING, Mich.—Mrs. Elrena Knight, refrigerator saleswoman for Caswell, Inc., handling General Electric refrigerators in this city, had been an owner of a "Monitor Top" for three years before she became a saleswoman.

"During all that time," she says, "I had called Caswell's regularly, giving them the names of people whom I had found to be interested. Finally I decided I might as well have those sales myself."

"I had a hard time convincing Mr. Black, manager of the store, that he should hire me for his sales force, and called him every day for a week before he finally gave in and consented to let me have a try at it."

Mrs. Knight wonders why more women are not engaged in selling refrigerators.

"When I tell a woman that the refrigerator pays for itself, or that it is an added convenience that cuts down her kitchen time, she knows that I know about it first hand. Although I use the same arguments and sales helps that the rest of the sales force uses, I feel that I emphasize the point of kitchen convenience more than some salesmen do."

Mrs. Knight has been with Caswell, Inc., since last April. She does not put her full time on the job, as she has three children to take care of and a home to keep up.

Yet last December, in a month when several Lansing banks closed and conditions were bad for selling anything, she sold 125 per cent of her quota, and "if I could spend all my time on this, I'd show them something," she says.

"Although I have had a few prospects from food shows or other exhibits, most of my prospects and almost all of my

sales have come from ringing doorbells," she continues.

"I work on the 25 Plan. I go down a block and turn in at every house—unless there happens to be a police dog in the yard. I try to make my 25 calls before noon each day."

Mrs. Knight does not try to sell refrigerators on her morning calls, but, as other General Electric salesmen do, tries to make a good impression herself, and has as a goal the making of an evening appointment. At this appointment, she talks General Electric refrigeration, using the "brooder" films as an indispensable part of her talk.

"I have only lived in Lansing for three years, so that my personal acquaintance is still fairly limited," she says, "but the General Electric users to whom I have made sales call me of their own accord, and from this source I get plenty of good prospects."

In ringing doorbells during her morning calls, Mrs. Knight finds that the reception she receives from the housewives is very good. One reason for this, she thinks, is that they believe another woman will realize that there is morning work to be done, and do not fear, when they answer the door, that she will impose on their time.

"Do you ever use recipes or other kitchen suggestions in making sales?"

"Only one," Mrs. Knight replied. "When I want to illustrate the savings of an electric refrigerator to a prospect, or if I want to call on a user and talk to her for a few moments, I often give her a pet recipe of my own. This is an apricot sherbet made with canned milk which costs only 24 cents a gallon. It is a simple recipe, and works into my sales talk well."

# LEONARD

## is the Answer to the Cabinet Problem

... because Leonard has had 51 years of refrigeration experience ... in the specialized field of cabinet design and construction.

... because Leonard has the largest plant in the world, devoted to the manufacture of refrigerator cabinets.

... because Leonard can fulfill ... with equal efficiency and economy ... contract obligations of any size.

Correspondence from interested manufacturers, addressed to our Contract Department, will receive careful and confidential attention ... specifications and estimates suited to any requirements will be given promptly.

### Leonard Refrigerator Company

DESIGNERS AND BUILDERS

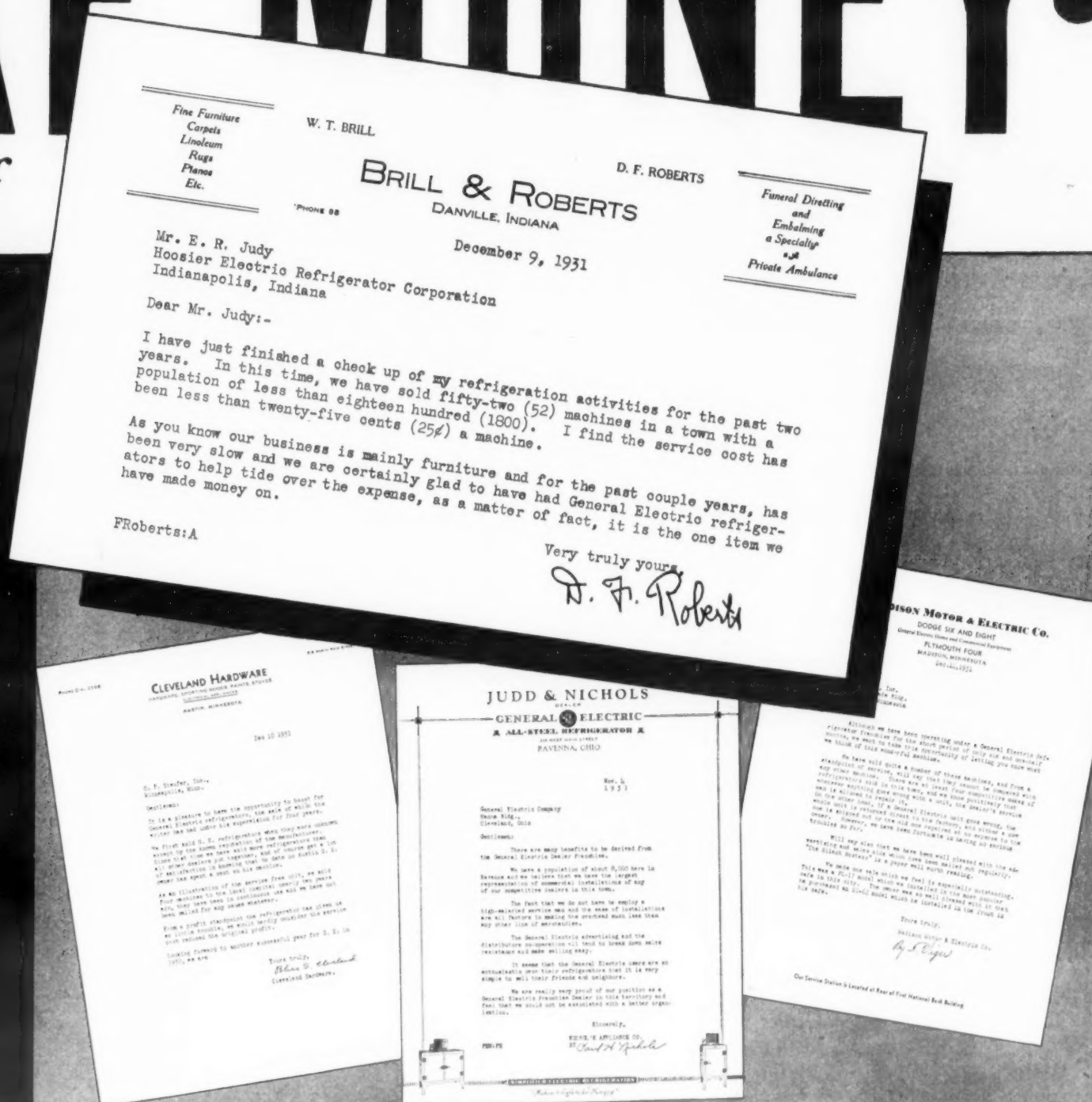
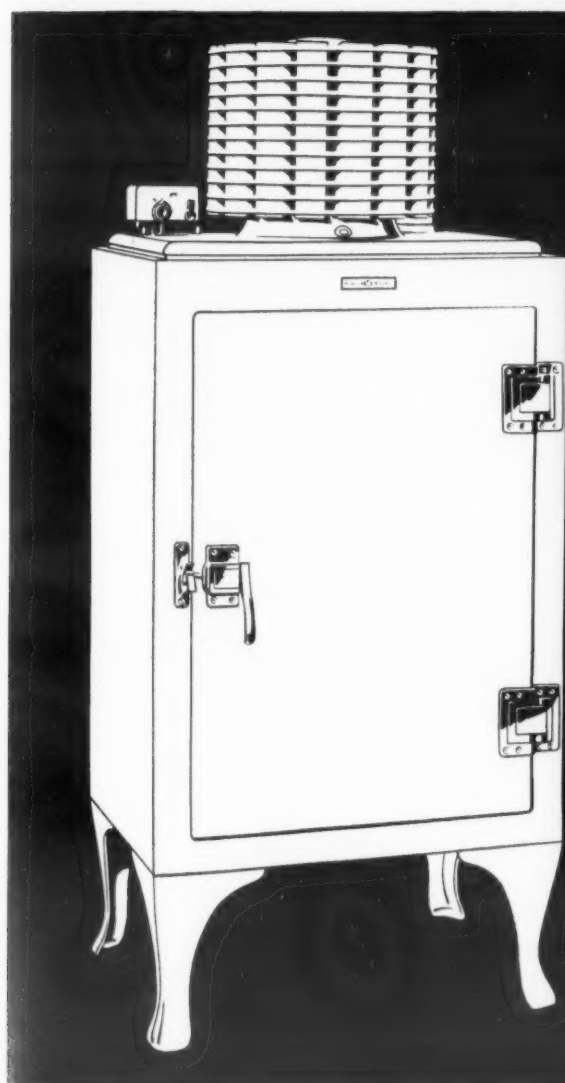
14256 Plymouth Road

Detroit, Michigan



# YES! GENERAL ELECTRIC REFRIGERATOR DEALERS MAKE MONEY.

... here's proof



**EASIER SALES**, quicker turnover of stock on a smaller investment, greater NET profit... that's what General Electric dealers report from every section of the country!

The letters reproduced here are typical of scores of testimonials from dealers in the files of the General Electric Company. From large town and village; from North, East, South and West, comes the same message... "General Electric dealers are making money!"

The wide public preference for the Monitor Top Refrigerator results from an unparalleled perform-

ance record made in well over a million homes. Extensive advertising has taken the message of this remarkable record into millions of homes throughout the land. A vigorous, continuous sales promotion program helps crystallize public preference into ready sales dealers.

General Electric's simple mechanism is entirely sealed-in-steel in the Monitor Top... requires no attention, not even oiling. That means an almost complete absence of servicing... and greater NET profits to the dealer. The All-Steel cabinet, built

for life-time wear, further reduces maintenance costs. And General Electric's worth-while, written 3-Year Guarantee, places the product responsibility squarely on the shoulders of the manufacturer.

Mr. Roberts, whose letter appears on this page, echoes the experience of hundreds of other dealers in his statement that when other lines of business are slow, the General Electric Refrigerator is "the one item we have made money on!" General Electric Company, Electric Refrigeration Department, Section DF 31, Hanna Building, Cleveland, Ohio.

Tune in on P. B. Zimmerman, Manager Electric Refrigeration Department, General Electric Company, who will broadcast a message of vital interest and importance to the electric refrigeration industry on the General Electric Program, Monday, March 14, Noon, Eastern Time, over the N. B. C. red network.

## GENERAL ELECTRIC

### ALL-STEEL REFRIGERATOR

DOMESTIC, APARTMENT HOUSE AND COMMERCIAL REFRIGERATORS — ELECTRIC WATER COOLERS



## GEORGIA POWER READY FOR G. E. CAMPAIGN

(Concluded from Page 1, Column 2)  
have mapped out definite sectors of the Monitor Top War Front and have established a definite campaign objective. They will use all of the material used

by G. E. refrigerator distributors, including prizes, promotion of officers, etc.

Merchandising Manager Jackson already has completed his plans for a series of spring meetings in the field which will start the campaign. Manager Morehead, too, is completing his arrangements. W. W. Barr is general merchandising manager for the utility.

# LARKIN COILS

## RECOGNIZED As a Distinct SALES ASSET--

### STANDARD EQUIPMENT

with  
**Copeland**  
DEPENDABLE Electric Refrigeration  
DETROIT, MICH.

**SERVEL**  
COMMERCIAL Electric Refrigeration

**WILLIAMS ICEOMATIC**  
REFRIGERATION  
BLOOMINGTON, ILLINOIS

**B-K, Junior**  
New Brunswick, N.J.

**TRUPAR**  
DAYTON, - OHIO

**UNIVERSAL**  
DETROIT, MICH.

**KULAIR**  
PHILADELPHIA, PA.

**Zerozone**  
Lifetime Refrigeration

**Electric-Automatic REFRIGERATOR**  
PHILADELPHIA

**Obsopure**  
DETROIT, MICH.

**Modern**

**STARR-FREEZE**  
Electric Refrigeration

**ELECTRIC RICE**  
REFRIGERATION

**Apex**  
CLEVELAND, O.

**DICELER**  
BUSSING MACHINE CO.  
CINCINNATI, OHIO

**MOHAWK**  
REFRIGERATOR  
WITH THE DUCLONE UNIT

**H. M. Robins Co.**  
Export

## Proven by Severe Factory Tests--

Leading manufacturers (see partial list at left) interested in the performance of their equipment have carefully checked and tested all Larkin claims for efficiency with the result that they have adopted Larkin 100% Vertical Surface Aluminum Plate Coils as Standard Factory Equipment.

## Close to 30,000 Now in Daily Use--

Within three years, close to 30,000 installations containing Larkin Coils have been made—performance claims fully carried out to the satisfaction of all users.

## Offers these Great Performance Aids--

With Larkin Coils the dehydrating and defrosting problems of commercial refrigeration are reduced to a negligible factor. Larkin Coil equipped installations require less servicing, less fuel consumption, consequently greater efficiency and lower costs result.



## Available in 93 Standard Sizes--

This vast line covers every type of commercial refrigeration. Over 6,000 installation combinations possible. Complete Coil units available for complete job. No coil ganging necessary.

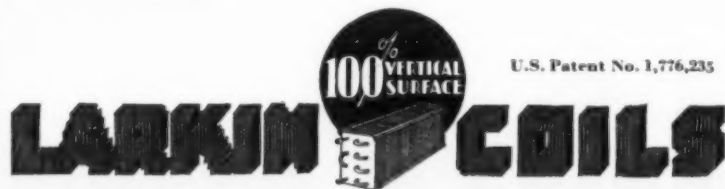
## Send for Newly Prepared Data--

Our engineering and laboratory departments have developed some new valuable data charts Obtainable from any manufacturers listed here or direct from

## LARKIN-WARREN Refrigeration Corp.

Originators and Manufacturers

ATLANTA  
GEORGIA



## MAJESTIC BOOK LOSS \$2,901,305 ON DEC. 31

CHICAGO—A net book loss of \$2,901,305.41, after depreciation and amortization of \$958,160.99 and losses on property dismantled or sold \$195,443.57 is shown in the annual report for the fiscal period ending Dec. 31 just mailed to the stockholders of the Grigsby-Grunow Co.

The report covers the seven months from June 1, 1931, to Dec. 31, 1931, to conform with the fact that the company's new fiscal period ends Dec. 31 in each year.

Included also in the net book loss are write-downs of \$703,555.16 in inventories, to conform with current market prices at Dec. 31, 1931; liquidation expenses in the amount of \$230,049.86, as a result of closing the company's subsidiary distribution points.

### Monthly Sales Average

Sales averaged \$1,202,513 per month during the period, as compared with a monthly average of \$2,362,573 during the previous year, but economies in operation saved \$200,000 per month in comparison with the previous year.

In addressing the report to the 35,317 stockholders in the company, B. J. Grigsby, chairman of the board and president, said, "We believe that Grigsby-Grunow Co. is in as favorable a position as it is possible to maintain today... The future of this company is only dependent upon a recovery of general business conditions."

He pointed out that current assets as of Dec. 31, 1931, amounted to \$4,159,918.40, and current liabilities to \$1,079,291.26, or a ratio of 3.85 to 1. This compares favorably, he said, with the ratio at May 31, 1931, when it was 2.7 to 1.

### Current Liabilities Decrease

Further improvement in the financial condition of the company during the last seven months was shown by a decrease of \$1,885,528.74 in the current liabilities, and a further reduction of \$356,400 in the amount of first mortgage bonds outstanding.

On Dec. 31 there were no notes payable or bank loans, as compared with \$202,897.95 owing at May 31, 1931. Cash on hand, amounting to \$841,179.09 on Dec. 31 was two and one-half times the open accounts payable. In comparison, the cash on hand of \$2,364,655.76 at May 31 was approximately one and one-half times the open accounts payable.

Mr. Grigsby continued: "Since the date of these statements your company has acquired 94 per cent of the outstanding capital stock of Columbia Phonograph Co., Inc., of New York, and all rights to the valuable and well-known trade name "Columbia" in the Western Hemisphere and American possessions in the Pacific.

### Net Columbia Assets

"This acquisition was accomplished by the issuance of 348,000 shares of our common stock in exchange for the aforesaid stock of Columbia. The net assets of Columbia have an appraised value of approximately \$1,900,000."

He stated that electrical transcriptions for radio use as well as standard records will continue to be sold in domestic and export fields. Also that the Grigsby-Grunow Co. will manufacture a complete line of radio sets under the name "Columbia" to be marketed through the Columbia sales organization.

The report also carried an innovation in that all products now being made under the Majestic trade name were described. Illustrations of the factories and views from various departments supplemented information on the 12 radio models and seven refrigerator models.

Complete specifications and pictures of models, including prices f.o.b. Chicago, were included for the information of the stockholders.

## ZIMMERMAN WILL ADDRESS SALESMEN ON RADIO CHAIN

(Concluded from Page 1, Column 4)

fide order, delivered and installed after sunrise Monday and before midnight, May 31, will count in the campaign. Every General Electric sales outlet has been provided with a large colored war map to show the number of miles that outlet marches into the territory of the enemy.

Prizes for salesmen will consist of clothing, including a selection of fine suits, hats, shoes, underwear, socks, shirts, and ties. All salesmen start out as buck privates, and are promoted to various positions depending on the amount of quota which each of them achieves.

## NORGE NESTOR CO. NAMED ELECTROCHEF OUTLET

JACKSONVILLE, Fla.—The Norge Nestor Co., Inc., of Jacksonville, Fla., distributing organization covering Florida and southern Georgia, has been appointed distributor in that territory for Electrochef ranges.

## General Electric Co. Cuts Dividends

NEW YORK CITY—The General Electric Co. last week reduced its dividend from a \$1.60 annual basis to \$1. A quarterly payment of 25 cents was declared.

The company reported 1931 net income for dividends of \$40,956,996, equal, after dividends on the special stock, to \$1.33 a share on the 28,845,927 shares, or 27 cents less than the 1931 dividends. In 1931, the company earned \$57,490,915, or \$1.90 a share on the same amount of common stock.

### Dividends Total \$48,725,262

Dividends on common stock last year totaled \$48,725,262. All but \$7,768,266 of this was earned, and this was taken from the surplus. The surplus, after this deduction, amounted to \$172,198,374 on Dec. 31, 1931.

The \$1.60 annual rate was established in the second quarter of 1930 following the four-for-one split of the common shares earlier in that year. Prior to this change in the capitalization, the company had paid \$4 annually in regular dividends from the third quarter of 1927, with extras of \$1 each in 1927 and 1928, and two extra payments of \$1 each in 1929.

In 1927, the rate was raised from the \$3 basis fixed after the 1926 split-up, which also was four-for-one. Previously the stock had paid \$8 annually since 1902.

### Sales Lower Than 1930

Sales billed last year amounted to \$263,275,255 compared with \$376,167,428. Cash and marketable securities on Dec. 31 totaled \$122,178,933, compared with \$141,717,851 at the end of 1930. Current assets were \$219,086,510, against current liabilities of \$28,582,788.

Directors declared the regular quarterly dividend of 15 cents a share on the special stock. Both dividends are payable April 25 to stock of record March 18.

## REFRIGERATION FEATURE OF DETROIT EXHIBITION

(Concluded from Page 1, Column 1)

Detroit Frigidaire Sales Branch; Kelvinator, Detroit Kelvinator Sales Branch; Norge, Republic Radio Corp.; Copeland, Detroit Copeland Co.; General Electric, Caswell, Inc.; Sparton, Wilks Distributing Co.

Majestic, Majestic Radio Sales and Service; Westinghouse, Approved Appliances, Inc.; Mayflower, Radio Distributing Co.; Leonard, Bullock-Green Hardware Co.; Electrolux, Detroit City Gas Co.; Coldspot, Sears, Roebuck & Co.

Prominent in the Frigidaire exhibit were a number of the individual unit-type air conditioners for home cooling and air conditioning. A cut-away model of the Frigidaire two-cylinder compressor with motor operating also drew crowds of interested spectators.

In addition to a complete line of General Electric refrigerators, a number of Hotpoint electric ranges was displayed by Caswell, Inc. At the Food Show which adjoined the Builders' Show, a model store using General Electric conditioned air commercial refrigeration and ice cream cabinets was set up.

The entire line of Westinghouse products was displayed by Approved Appliances, Inc. The WL-30, new 3-cu. ft. apartment house model, was shown.

Two operating models of the Norge rollator compressor were mounted on posts in front of the display of Norge units and drew the attention of spectators interested in the mechanical aspects of refrigeration.

A complete line of Electrochef electric ranges was on view at the show.

Three air conditioning systems made their appearance at the show. The new complete "Sirocco" conditioner which heats, cools and properly humidifies air for households of any size constituted one of the largest exhibits of any type at the show. The "American Air-O-Zone," manufactured by the American Furnace Co., and the "Aire-Flo," made by the Torrid Zone Co., were other systems exhibited.

Oil burners shown at the show were Torrid Heat, Petro-Nokol, Wood Hydraulic, Silent Automatic, Argo, and ABC models.

## KELVINATOR COMMERCIAL MEN ENTER SALES CONTEST

(Concluded from Page 1, Column 1)

15 winners, \$25 in cash; next 25 winners, \$10; next 50 winners, \$5. For the sub-contest, the salesman selling the largest number of meat merchants will get \$25 in cash; the second largest, \$20; third, \$15, and fourth, \$10. For the largest individual meat merchant sale, an award of \$25; second, \$20; third, \$15, and fourth, \$10.

A \$50 prize will be awarded the dealer in each of Kelvinators six regions and one branch region who makes the best showing on commercial sales during the whole contest period.

## FRIGIDAIRE REDUCES PRICES ON MODELS

(Concluded from Page 1, Column 5)

same freezing capacity, the same number of ice trays, the same shelf area and the same two-cylinder compressors that they had last year," declares Mr. Newell. "Only the price has been changed."

The lowest priced household model is the ML-4, which formerly carried a factory price of \$160. This now is listed at \$130. Decided reductions have been made on the other Moraine models and have been carried through on all the porcelain-on-steel White Line units.

Spring Rallies are scheduled for this week in the following cities: Pittsburgh, Indianapolis, Memphis, El Paso, Buffalo, St. Louis, Syracuse, Atlanta, Peoria, Los Angeles, Boston, and Tampa.

### Newell's Intentions

Mr. Newell recently took charge of the Frigidaire sales organization following a successful operation of the company's activities in New England territory.

When he assumed his present duties, Mr. Newell thus announced his intentions:

1. To recognize the problems of the dealer and salesman and to shape plans and policies to the practical solution of those problems.

2. To obtain in 1932 a substantially larger portion of the electric refrigeration business.

3. To establish as a paramount issue "the making of money" and to so construct sales programs and management policies that all concerned should make the maximum amount of money from their businesses.

### Four Convention Groups

The four convention groups in the field are headed by J. J. Nance, manager of the sales planning division; L. McCutcheon, commercial sales manager; F. R. Pierce, household sales manager, and George S. Jones, Jr., manager of the public utilities division. Each crew comprises six factory representatives.

Following are the members of each convention group: Eastern, J. J. Nance, R. B. Ambrose, C. E. Allen, R. W. Poole, W. W. Hall, Sam Harry and Joe Nahstoll; Midwest, L. McCutcheon, C. E. Quigley, R. L. Winegarner, F. C. Lyons, J. W. Thiele and John Martin; Southern, F. R. Pierce, E. Gilbert, R. D. Van Dyke, V. C. Smith, H. H. Schnabel, L. W. Curl, and Robert Potter; Pacific, George S. Jones, Jr., D. T. Hayward, F. J. Cain, F. W. Beecher, G. W. Shane, and J. E. Haynes.

### Sound Pictures Used

As in previous years sound pictures are being used extensively in handling important subjects. One of the features of the program is an institutional picture which shows the many things that enter into the manufacture of an electric refrigerator.

A considerable amount of time is allotted in the 1932 Spring Rally programs to a discussion of the company's new air conditioning equipment.

### Explain March

Much time is also devoted to an explanation of the March sales program which includes a public preference contest with 50 Moraine model Frigidaires to be given away, the correlated advertising program which embraces national magazines, newspapers, radio outdoor trade publications and direct mail—all telling the same sales story.

Beginning next week Frigidaire Spring Rallies are scheduled for New York City, Davenport, San Francisco, New Orleans, Philadelphia, Omaha, Sioux City, Houston, Portland, Richmond, St. Paul, San Antonio, Seattle, Cincinnati, Milwaukee, Fort Worth, Spokane, Dallas, Cleveland, Chicago, Billings, Oklahoma City, Detroit, Wichita, Grand Rapids, Kansas City and Denver.

## EDISON, FISHER TO SPEAK ON BUREAU PROGRAM

(Concluded from Page 1, Column 1)

New York; WBAL, Baltimore; WBS, Springfield; WGAR, Cleveland; WJAX, Jacksonville, Fla.; WOC, Davenport, Iowa; WMAC, Chicago; WLW, Cincinnati; KDKA, Pittsburgh; KWK, St. Louis; WREN, Kansas City.

KOIL, Council Bluffs, Iowa; KSTP, St. Paul; WEBC, Superior, Minn.; WPTS, Raleigh, N. C.; WIS, Columbus, S. C.; WWM, Asheville, Ky.; KGS, Spokane; WFLA, Tampa; WHAS, Louisville; WSM, Nashville; WMC, Memphis; WSB, Atlanta; WAPI, Birmingham; WSMV, New Orleans; KVOO, Tulsa; KPRC, Houston, Tex.; WOAI, San Antonio; WKY, Oklahoma City; KOA, Denver; KGI, Butte; KGH, Billings; KFSD, San Diego; KTAR, Phoenix; KPO, San Francisco; KEX, Portland; and KJR, Seattle.

## HARRISON BASKETBALL TEAM WILL PLAY

NEWARK—A basketball team representing P. H. Harrison & Co., General Electric refrigerator and range distributor, has signed for a three-game series with the Newark Athletic Club.



# "Sitting ON THE WORLD"



THE biggest buying season the industry has ever seen is coming around the corner—loaded down with prospects and PROFITS!

Prospects—millions of them! Prospects for low-priced domestic cabinets—medium-priced cabinets—high-priced cabinets. Prospects for water cooling equipment—milk cooling equipment. Bakers, butchers, bankers, grocers, druggists—with money to invest in electric refrigeration. Restaurants, chain stores, hospitals, florists, clubs, office buildings, apartment houses, hotels—millions of prospects—and *every one of them is a Kelvinator Prospect!*

With the most complete lines of Domestic and Commercial equipment in the industry, Kelvinator dealers are "sitting right up on top of the world". In the Domestic field, they have 17 models—a complete range of sizes and prices for *every prospect*. In the Commercial field, they have a full line of equipment for *every commercial electric refrigeration need*.

Every prospect for electric refrigeration is a Kelvinator Prospect—which means that the Kelvinator dealer is in the most advantageous position, with unlimited sales and profit possibilities. Which brings us up to this question—Why should YOU handicap yourself with a limited line, restrict your market and confine your profit opportunity? There is no wisdom in being satisfied with "the crumbs" when as large a piece of "the cake" as you care to have is within your grasp. We shall be glad to discuss it with you. Wire, write or phone when you want to see us.

**KELVINATOR CORPORATION**  
14245 Plymouth Road                      Detroit, Michigan

Kelvinator of Canada, Ltd., London, Ontario  
Kelvinator Limited, London, England



# Kelvinator

(501)



## MANUFACTURERS' TAX BASIS OF NEW BILL

WASHINGTON, D. C.—Agreement on items to go in the forthcoming tax bill being designed to meet the Federal deficit, was reached by a subcommittee of the House Committee on Ways and Means Feb. 29, according to Acting Chairman Crisp (Dem.) of Americus, Ga.

The manufacturers' sales tax acts as a base for the tax, according to Chairman Crisp.

The following articles will be recommended by the subcommittee as exemptions from the tax: "Articles of food that the average man uses," such as tea, sugar, coffee, bread, raw meat and dairy products; all farm products in the hands of the farmer; feed and fertilizer; fish; books and other materials used in public and private schools, churches, and institutions for the blind; newspapers, magazines, and periodicals.

### Clothing Not Exempted

Mr. Crisp said that those in general terms will be the exemptions, but that others which he could not explain in detail will be made. Clothing, he said, will not be exempted.

The exact amount of additional revenue that should come from the levying of this tax could not be given, he said, but it is expected to bring in over \$500,000,000.

To balance the Federal deficit, there will still be several hundred million dollars more to be raised. The Treasury figure of \$1,241,000,000 is still being used by the committee as the amount of additional revenue necessary to balance the budget by the end of the fiscal year 1933.

### Change in Postal Rates

A saving of \$20,000,000 is being counted on by the committee in a change in the postal rate, which has been reported upon favorably by the House Committee on Post Offices and Post Roads.

In commenting on the proposed sales tax, Representative Garner of Texas, Speaker of the House, said, "It seems that we must have a sales tax. It was thought at first that we had to raise only about \$400,000,000 through miscellaneous taxes, but it is now found that we must raise about \$800,000,000."

"It seems wise to spread the tax as much as possible."

### Kentucky Sales Tax

A similar tax is being urged by Gov. Ruby Laffoon of Kentucky to meet the deficit of that state.

A general sales tax of 2 per cent and a horizontal reduction of 5 per cent in all appropriations set forth in the state budget act except those provided for schools, are advocated by the governor in a special message to the state legislature.

Gov. Laffoon stated that he has had prepared a bill levying a gross sales tax of 2 per cent for a period of two years, applying only to retail sales. If this law were enacted, he said, the tax rate on real estate should be reduced to 10 cents upon each \$100 and the rate on tangible personal property reduced to 25 cents upon the assessed value.

## NEW BUREAU FOR EASTERN NEW YORK IS ORGANIZED

ALBANY, N. Y.—The expansion of the Albany Electric Refrigeration Bureau to take in several outlying towns has resulted in the organization of the Electric Refrigeration Bureau of Eastern New York.

Officers were elected as follows at a recent meeting: W. H. McElroy, chairman; H. J. Zehner, treasurer, and L. L. Ney, secretary.

Decision to hold a cooperative exhibit from March 28 to April 2, inclusive, was made; the sales floor of the New York Power & Light Corp. was offered for the exhibit, and the expenses of the show shared equally by that company and the bureau.

Dr. G. W. Allison, field manager of the Electric Refrigeration Bureau, will deliver an address on the opening night.

### NEW JERSEY GOVERNOR TO ADDRESS LEAGUE

NEWARK—Gov. A. Harry Moore of New Jersey will address the Essex Electrical League March 11 at the Newark Athletic Club on "New Jersey State Finances."

Members of the league have been asked to invite guests, and members of the Newark Athletic Club will also attend.

The February meeting of the league was addressed by Dr. Harry Everett, nephew of the orator, Edward Everett.

The league reports a large appropriation for advertising, publicity, shows, and exhibits this year. It has already sponsored the lighting of the equestrian statue of George Washington in Washington Park, Newark. The ceremonies connected with the new floodlighting system took place Feb. 20.

The league is also sponsoring a move to organize a council composed of two members from each electrical league in New Jersey, to foster cooperation.

## How a National Refrigeration Sales Organization Functions Throughout Year Told by McElhinny

### Explains Set-up



W. D. McELHINNY  
Copeland's vice president in charge of sales.

NEW YORK CITY—How a national refrigeration sales organization functions throughout the year is told in the Feb. 25 issue of *Printer's Ink* by W. D. McElhinny, vice president in charge of sales of Copeland Products, Inc.

After pointing out that Copeland's earnings for 1931 were \$6.04 per share as against \$2.05 in 1930, and that net sales for the fiscal period of 1931 were just short of five times the company's net worth at the beginning of the year, Mr. McElhinny launches into a discussion of the plan under which his national sales organization operated to establish this record. His remarks follow:

### National Sales Convention

"In January of last year, we held a national sales convention in Detroit. We showed distributors and dealers our new models. We told them of our sales plans for the year and they were highly enthusiastic. They were sold on the company and on the product, and new ways to sell as they never had been before.

"Beginning with February, and continuing well into May, I and a corps of assistants from the factory traveled in every part of the country, holding district sales meetings in the large centers of distribution. These meetings lasted two days and were attended by our distributors, dealers and their salesmen—from 100 to more than 500 at each.

"There were no frills. We got down to work, dealt with facts and talked about the new models and how to sell them. We devoted considerable attention to the product, of course.

"The matter of the dealer's set-up, the most satisfactory methods of directing salesmen, getting prospects, making demonstrations, closing and promotional plans of various kinds were thoroughly discussed.

### Confer on Individual Problems

"Not only was enthusiasm created, but much concrete sales assistance given. Between meetings we held conferences with distributors and dealers, to help them solve special problems and plan sales campaigns.

"A comprehensive program was mapped out for our regional managers and they, in turn, outlined the plans to their sales representatives. They were assigned sales quotas, with a considerable increase over 1930.

"To attain this increase, each regional manager was given a new dealer quota, together with instructions for cooperating with dealers to help them meet their quotas. Help was given dealers in securing and training additional retail salesmen.

"The field men also worked with distributors, helping better to balance their activities. For example, some distributors were inclined to devote too much time and effort to their retail departments and not enough to their wholesale, and vice versa.

### Urge Distributor Sales

"Distributors were encouraged to intensify their retail sales in their own cities, just as automobile distributors do; but they were also told that they must appoint a satisfactory number of dealers in their territory and help these dealers with their sales and service.

"Regional managers and representatives were instructed to give dealers in smaller places more assistance than formerly. It is easy for a manager or representative to devote his time to distributors in large cities because of personal preference for the larger places.

and chances for easier success.

"As many dealers are not equipped to handle apartment house sales, because of the large volume, our field men were held responsible for these sales which were turned over to the local dealer. They also saw that dealers purchased and used direct mail helps supplied by the company.

### Field Representatives Report

"Field representatives work under the direction of their regional managers and make daily reports to them, sending a copy to the factory. Prepared forms are furnished for this purpose, providing spaces for date, time of leaving one point and arriving at another, name of distributor or dealer called on, name of city, information regarding his organization, stock and merchandising methods.

"Half the form is left for the field man's report on constructive work done, such as educational meetings held with the dealer's organization, apartment house deals closed, interviewing prospective salesmen for the dealer and helping the dealer plan a sales campaign for the following week.

### Duplicate Goes to Factory

"The reports are made in duplicate. The original is mailed in the hotel envelope from the point designated in the salesman's itinerary to the regional manager. The duplicate copy is gummed at the bottom and self-addressed to the factory, so that all the salesman has to do is to fold the form, seal it, and mail without an envelope.

"An important part of our program was a determined effort to improve the situation in our factory branches by more careful management and control.

"The results achieved for the fiscal year ended Oct. 31, 1931, justified the premises on which we started out. Unit shipments for the year increased 23.1 per cent over those of the previous year, which had shown a similar increase over that of 1929.

"Sales of commercial refrigerating units during 1931 were 54.86 per cent greater than in 1930. The increase in commercial sales was brought about

largely by giving the merchant a type of refrigeration that was not available to him before.

"In order to keep up with the exceptional record of the fore part of the year, we inaugurated a sales contest, starting July 20 and ending Sept. 30, that resulted in increasing our sales 60 per cent over those for the corresponding period of the previous year.

"Moreover, our unit shipments for November and December were approximately 38 per cent over the corresponding months of the previous year.

"The actual sales cost of getting this business was held well below the budget set up for the year, and materially under the same items of expenditure for the same period of the preceding year.

### Branch Sales Increase

"Sales to and by the three factory branches operated by this company increased very substantially during the year and at the same time the profit and loss situation was gratifyingly improved.

"Obviously, back of these accomplishments was a large amount of detail, of plan and hard work. We mixed a great deal of analysis and hard thinking in our sales plans and efforts. Then, our organization worked harder than ever.

"Also, we maintained the reputation Copeland has won for introducing new features in refrigeration and made several distinct mid-season improvements.

"Among these are three noteworthy achievements: the improvements in household models, the room cooler, and the gasoline-engine-operated units that now make mechanical refrigeration available beyond the electric power lines.

### Room Cooler Field

"There is a large field for room coolers with restaurants, lunch rooms, florist shops; in fact, all stores where business profits by enticing customers to enter and linger over displayed goods. There is a substantial demand for room coolers for executive offices, general offices, doctors' and dentists' offices.

"Through the medium of gasoline-engine-operated refrigeration equipment, farmers, ranchers, dairy-men, resort operators, country hotel owners, etc., may have all the advantages of mechanical refrigeration. Motor trucks are being equipped with this new gasoline-engine-driven refrigeration equipment so as to maintain the desired temperature of milk, meats, ice cream and other products on their way to market, regardless of time on road, or how hot the weather may be.

### Progress of Refrigeration

"Of course, the additional features and refinements added to the manufacturing cost. However, this increase was more than offset by the increased sales which the improvements made possible, aided by intensive and well-directed sales and advertising effort. As a result of increased volume, the company has been able to make substantial price reductions on all models in 1932.

"In the last five years, electric refrigeration has made great progress in winning public acceptance. It is accepted today as standard in several million homes and business places. Yet I believe few persons have any idea of the extent to which the business will grow in the immediate future with many 'cooling' applications as yet unheard of.

"Artificially cooled railway passenger cars have already made their appear-

ance on several railroads. It is entirely possible that the principle of cooling will be applied to our large overland passenger busses. And, no doubt, the time will come when some means will be developed for cooling automobiles in hot weather, just as we heat them in winter.

"All these things are no more unreasonable than was the thought not many years ago that we would have starters for our cars and heat them in winter.

"Once a principle is established, it is only a matter of time for many applications to develop, many of which were unthought of at the beginning.

### Supply and Demand

"We are facing 1932 with confidence that electric refrigeration will continue its upward movement of the last several years. This is because we have actually only begun to supply the demand. More than five-sixths of the present market is unsold, and I believe that the market is increasing as rapidly as the sales of all good companies.

"Electric refrigeration is a young industry that is just receiving general public acceptance. It is acquiring stature. It had no precedents of its own and, therefore, no traditional restrictions. It has the energy and imagination characteristic of youth.

"The country is supposed to be in a great depression—the greatest of our time. It has proved a great many things. We now know that 1928 and 1929 were peak years, when we were all wrong, the economists were all wrong, the bankers were all wrong, and apparently we have all been wrong in our reasoning since.

### Resourcefulness, Hard Work

"We were wrong in making some money, had no right to make it; we were wrong in losing it—and, to listen to a lot of people, we are 'now wrong' in trying to make more.

"As the depression has continued, it has become obvious that these times represent a new deal. It doesn't make any difference what happened in the last 10 years. That game has been played and we are now starting a new deal, the same as we started back in 1921 and 1922.

"In this new deal, knowledge, initiative, resourcefulness, and hard work are still aces which any man can use, and the game should not be figured on memories of past profits, but with the stern realization of what we have in our hands to play with now."

## PETRIE TALKS AT MEETING OF PHILADELPHIA DEALERS

PHILADELPHIA—R. I. Petrie, sales manager of the Leonard Refrigerator Co., introduced the 1932 Leonard models to 300 dealers of the Klein Stove Co., distributor in the Philadelphia area.

The convention delegates were welcomed by Julius Klein, who introduced Walter L. Brous, director of sales in the refrigeration division of the firm, who then took charge of the business sessions.

A. M. Taylor, director of advertising for Leonard, spoke on advertising and sales promotion. Talks were also given on service problems and on wholesale and retail financing.

Mr. Brous introduced to the assembly the eight members of his wholesale organization. B. T. Roe, Leonard district manager in the East, told some of the background of the Leonard Refrigerator Co.

A banquet, at which Mr. Brous acted as master of ceremonies, closed the convention.

## FACTORY USED FOR SALES MEETING OF GIBSON MEN

GREENVILLE, Mich.—Morley Bros. Gibson electric refrigerator dealer in Saginaw, Mich., brought its sales force to the Gibson factory at Greenville, Mich., Feb. 27, for its dealer sales meeting.

An intensive service and sales talk was given the group of dealers and salesmen in the Gibson class room.

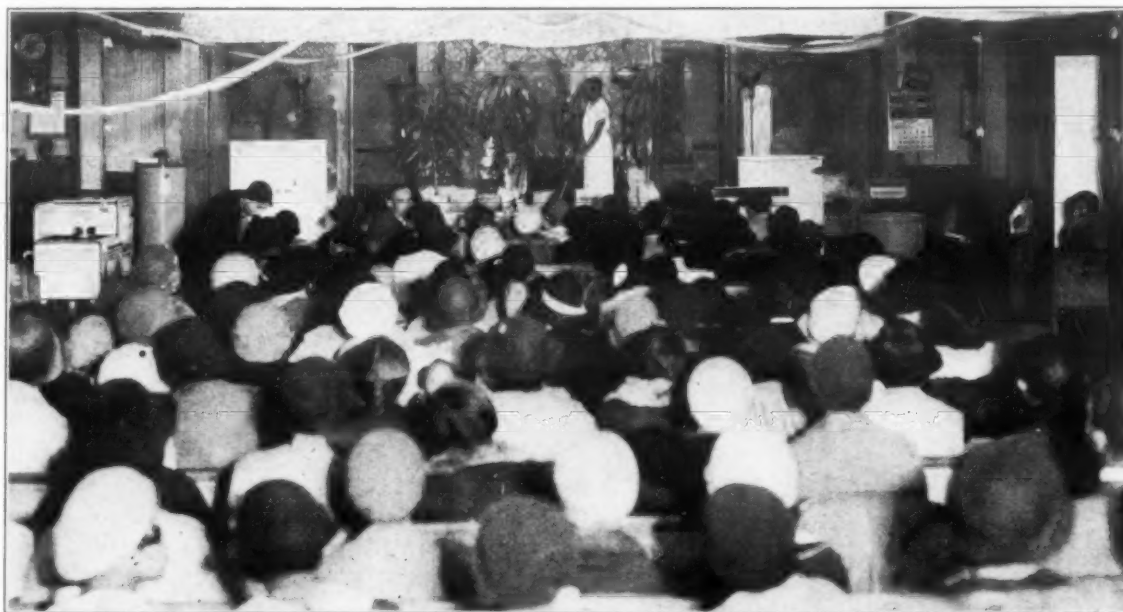
Gibson executives who addressed the meeting were C. J. Gibson, president; F. A. Delano, general sales manager; W. R. Marshall, advertising and sales promotion manager; G. C. Fricke, factory superintendent; C. M. Brown, production manager, and Elmer Bort, manager of the service department.

## ELECTRICAL MEN COOPERATE WITH AKRON BUREAU

MEDINA, Ohio—The Electrical Contractor Dealers Association of Medina, Ohio, will function this year as an auxiliary to the Electric Refrigeration Bureau of Akron, according to announcement recently made by E. H. Tintzman, president.

Similar organizations in Kent, Ohio, and Ravenna, Ohio, will be tied in with the Akron bureau and spring refrigeration exhibits will be held simultaneously in all four towns.

## Colored Home Economist Sells to Own Race



Miss Olivia Evens, colored home economist, demonstrates General Electric home appliances to colored church, school, and society groups in New Orleans. Miss Evens works under the direction of Mrs. Eva Pinder.



# Majestic

**Mighty Monarch  
of the Arctic**



## The Mighty Monarch's Aide-de-camp

Successful beyond question in a field of competition Majestic electric refrigerators have won a place in American homes through sheer meritorious service.

Built of quality materials, designed to meet every requirement of both beauty and utility, and constructed under the best principles of expert craftsmanship, Majestic has taken its place in the honor roll of electric refrigerators built for permanent high efficiency.

An indication of insistence on quality is the consistent use of Dry-Zero Pliable Slab Insulation in every model built by Majestic. Conserving Majestic's other vital parts, Dry-Zero is its greatest aid to economical operation, constant temperature and long life.

As in many other electric refrigerators Dry-Zero gives to Majestic the ultimate of insulation efficiency. Further, it provides an assurance that neither humidity nor hot weather will interfere with continual efficient operation or affect the long life of the refrigerator.

Admitted by the industry to be the most efficient commercial insulant known, Dry-Zero is a mark of demonstrable quality that will give added impetus to any sales talk.

**DRY-ZERO CORPORATION**  
Merchandise Mart - Chicago, Illinois  
Canadian Office - 465 Parliament Street, Toronto

THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN

# DRY-ZERO



## MERCHANDISING SECTION ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

Published Every Week by

BUSINESS NEWS PUBLISHING CO.

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and the REFRIGERATION DIRECTORY (annual)

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### Editorial Aims of the News

To encourage the development of the art.

To promote ethical practices in the business.

To foster friendly relations throughout the industry.

To provide a clearing house for new methods and ideas.

To broadcast the technical, commercial and personal news of the field.

## Quality and Mass Production

TWO of the results of mass production may be identified with cheapness. One of these results is the provision of low-priced products for the multitudes—products which in all likelihood they might not have been able to own had it not been for mass production. Another of the results which may be attributed to mass production is a general lowering of the public taste and sense of values.

Desires for things which wealthy people enjoy are not difficult to arouse among the lower income groups. The movies, advertisements in periodicals, shop windows, and personal observation all help to show people what they might be able to own if only they could have enough money to buy whatever they want. By means of quantity production methods manufacturers have become able to supply these wants at prices low enough to place their products within reach of millions.

### Buyers Want Style

Although the public reached by mass production goods has known what it wanted by sight, it has had scant opportunity to learn the feel of quality. Manufacturers found it necessary to make prices low in order to get a market large enough to absorb the volume essential to quantity production. Still lower prices meant still larger markets. Hence, appearance was the goal, not substance; style, rather than quality. Pride of ownership could be had for a small first cost.

Shining and glittering replicas of quality products were made in great quantities, placed on the market, and sold. Men bought suits for \$21.50 which had the appearance of \$100.00 suits. Women bought hats for 89 cents which were direct copies of expensive creations. Overstuffed furniture—formerly a mark of means—was acquired by hundreds of thousands of families, as were radios and automobiles.

### They Got What They Wanted

True, the cheap clothes wore out quickly, the furniture lost its sheen in a short time, the car became a trap, and the midget radio caught too many blurred stations. But the lower income groups had everything those in the bigger money groups enjoyed—except quality. Their desires had been educated, but not their tastes.

Because of the cry for low prices many makers and sellers of quality goods have been elbowed out of the race. They have not seen their way clear toward putting production of quality goods on a volume basis, and hence have been unable to com-

pete with those who manufactured products which looked like the quality lines but which sold much more cheaply.

### Buyers Fed Up

During the past decade a whole new generation of buyers has arisen, a generation which is educated to cheapness. These buyers have learned that the shine rubs off and the color fades, that their cheap goods don't wear long or well. Today they aren't buying. They have been close to the glitter and found it disappointing. Lacking educated tastes, they may not know what's missing; but whatever the cause, they don't seem to like what's being offered to them. Is it not barely possible that they have had their fill of cheap goods?

To get this new generation of buyers back in the market, perhaps they could be offered the one thing they haven't had before: *quality*. They have had the joy of owning *appearance*; possibly the next step to attract their money should be the creation of an opportunity for them to own *substance*.

### Something Different

Legion is the number of men who argue that the only way to lure the wary dollars out of hiding today is by lower and yet lower prices. Is there not a chance, should these advocates of cheapness proceed to rush still cheaper goods into the stores, that business would become even more stagnant than it is today?

It is entirely likely that the public is fed up on cheapness. Perhaps it has become tired of the goods it has seen displayed for so long, and lower prices on these same goods may not stir up much enthusiasm among buyers. What the public probably wants is something new and different. And quality products would be new and different to the present generation of buyers.

### Opportunity for Profits

Education of considerable scope and tenaciousness of purpose undoubtedly will be required to usher in an era of quality—to elevate tastes and to develop a sense of true values. It will take courage as well as brains to make and sell something better instead of cheaper.

The courage will be rewarded, however, if raising the standards of value should be the means of giving business a fresh impetus and a rebound upward.

## GLEANINGS FROM RECENT PERIODICALS

### KANSAS NEWSPAPERS DEPRECATE BAN ON PUBLIC UTILITY MERCHANDISING

A FEW months only have passed since the Kansas law prohibiting utilities from selling appliances has been in actual operation. It is still a little early—there or in Oklahoma—for the full story of results to be written and the lessons to be drawn. But it was not too soon for the Kansas State Press Association at its recent convention in Wichita to pass a resolution condemning the statute. The publishers of the local newspapers of Kansas have made up their minds that it was all a mistake and have put their judgment on record. According to the editor of the Peabody Gazette-Herald, the Kansas papers are losing \$300,000 a year in advertising revenue because the law was passed. This is bad for their business, and they believe that it is bad for local trade and for the public.

This is what inevitably will happen when the power company is no longer permitted to merchandise domestic appliances. Kansas is proving the case—that's all. Stores where public utilities formerly sold this household equipment at retail now stand vacant. Those who were employed in these merchandising activities are now idle. Householders can no longer have their appliances serviced free or at low cost, as they were accustomed to. Rural customers now have to go to the larger towns where they can find appliance stores or order from a mail-order catalog. Meanwhile the sale of appliances has fallen off, so that one town that sold 400 ranges in 1930 is now averaging one a month. Manufacturers and wholesalers find their business gone. The newspaper's appliance advertising has dropped to nothing.

The theory was that once the power company was out of the marketplace the business would all flow to the independent dealers. But it doesn't. The dealer has not increased his efforts to create demand and to draw trade to his store. So the business just stops flowing. For new electrical appliances are not staple necessities of daily need. Nobody seems to be benefiting by the law.

It is too late for the awakening of the Kansas newspapers to do much good—in Kansas. They should have thought of all this before and battled against the adoption of this law and saved this advertising revenue—in the public interest as well as their own. But the lesson of their belated conversion should not be lost on the newspapers of other states. —Electrical World, March 5, 1932.

## How To Get Prospects

As Told by W. A. Wilbur, Kelvinator Supervisor

By Phil B. Redeker

DETROIT—People who attend public "annual Refrigeration Shows," "Home Builders' Shows," and other exhibitions at which electric refrigerators are displayed will generally evince a great deal of interest in the attractive exhibits offered by distributors and dealers, but few of the thousands of names gathered (if taken promiscuously), result in anything but a headache for the filing clerk, sales managers have found.

W. A. Wilbur, one of the supervisors at the Kelvinator Sales Branch of Detroit, is one who has found that prospect-getting at such shows and exhibitions is of little use unless carried on in a selective manner.

### Tickets Given at Random

The most common method used at these shows to obtain names of people who might be interested in refrigeration is to get them to sign a ticket entitling them to a chance on a piece of merchandise to be given away on the final night, he points out.

The usual manner of handing out these tickets is for a salesman to stand out in the aisle and give them to every adult who was willing to stop long enough to put his name down on the long end of the prize ticket.

"When it came to checking the names," Wilbur states, "we discovered that a goodly percentage had to be thrown away because their names were located in cities outside of our territory."

### Much Time Wasted

"We had no way of telling whether or not the people who submitted their names were actually prospects, whether or not they were already equipped with a refrigerator, or whether they were financially able to purchase a new piece of equipment."

"Salesmen wasted a lot of time following up names of people who either had a refrigerator or who weren't in the market for one."

Experiences of this type with the results of name-gathering at public shows brought the branch sales heads to do some thinking on the matter of finding a better and more systematic way of getting prospects' names from these shows.

The plan finally devised was on the basis of selecting people who appeared to have a real interest in the machine, to approach them and find out all that was possible about their status as a potential prospect, and then, if the salesman decided that they were possibly in the market for a machine, he

would have such persons place their name on a ticket.

The salesman, instead of stopping everybody in the aisle, now waits until the people themselves stop in front of the exhibit, or approach a refrigerator and start to open the door or otherwise tinker with it.

It then becomes the salesman's duty to approach them, find out why they are interested, if they are in the market for a new refrigerator, and, if possible, whether the prospect can afford it at the present time.

### Information Sought

"The more the salesman can find out at this first meeting, the easier his task later becomes," Mr. Wilbur points out. "The prospects to whom he talks are credited to his lists and it becomes part of his work to follow them up."

"In this way we can also maintain somewhat of an accurate check on the salesman's work at the show and his later follow-ups."

In using this method whereby the salesman becomes conversant with those interested, many surprising and pleasant results often come from personal contact with those of the people who will talk, Mr. Wilbur points out.

At the current Detroit Builders' Show, a number of apparently "hot" prospects have been obtained in a second-handed fashion, that is, submittal of names of friends known to be in the market for refrigeration by interested spectators whom salesmen have contacted. Four names were obtained from one person in such a fashion, while another gave a "tip" relative to the construction of a new apartment building.

### Miss Few Prospects

"Of course, we may miss a few names by not distributing tickets in a wholesale fashion," Mr. Wilbur states, "but the time and effort saved and the 'spotting' of a few good prospects seem to present advantages over the old system."

"The problem of properly qualifying the prospect is pretty much a matter of salesman experience and intuition, and we are by no means as efficient in this matter as we could be. Continued work of this type, however, will probably raise the point of efficiency in the future."

Careful records of the number of names obtained and the percentage of sales made are going to be tabulated for the Builders' Show, Mr. Wilbur points out, and this, he believes, will determine the effectiveness of the new plan.

## SEWELL AVERY ELECTED MONTGOMERY WARD HEAD

CHICAGO—Sewell Avery, chairman of the board of Montgomery Ward & Co., was made president of the company March 4 to succeed George B. Everitt, who resigned for personal reasons. Mr. Avery will hold both positions.

Adverse business for January and February, except for the last 10 days, was reported by Mr. Avery.

"Within the last 10 days, however," he said, "there has been a noticeable improvement in both the mail order and the chain store situation—the change is of such dimensions that it is going to improve noticeably the February showing, which nevertheless will not be too good."

While earnings had been "bad," Mr. Avery said, there was no reason for anything but confidence in the soundness of the company. Economies are anticipated in the expiration next year of the majority of the original chain store leases. Forty stores, mostly in the South, have already been closed, and Mr. Avery said a few more will be.

Mr. Avery is a director of the Commonwealth-Edison Co., recently elected. He is president of United States Gypsum Co. and director of Armour & Co., Container Corp., Continental-Illinois Bank & Trust Co., Chicago Daily News, Chicago Great Western Railway, and U. S. Steel Corp.

The company announced that sales for January and February totaled \$23,991,420, a decrease of \$7,873,793 from the same period in 1931, or 24.7 per cent. February sales were \$11,963,366, off \$3,281,609 from February, 1931, or 21.5 per cent.

All other directors were reelected, and Thomas P. Riordan, secretary of the company, was named to the board. The directors voted a quarterly dividend of \$1.75 on class A stock, payable April 1, to stockholders of record March 21. No dividend was voted on common stock.

## WESTINGHOUSE STORE OPENS IN CALIFORNIA

SAN JOSE, Calif.—Hartman Bros., Ltd., will open a store at 171 West Santa Clara St., here, to handle Westinghouse electric refrigerators.

## Bohn Aluminum Profits Show Decrease

DETROIT—Losses due to the decline in metal prices as well as a decrease in sales were blamed for Bohn Aluminum Co.'s reduction in profits by Charles B. Bohn, president, in a letter to stockholders.

Mr. Bohn said in part: "The reduction in profits from the previous years was occasioned not only by a substantial decrease in sales volume resulting from general business conditions, but also from the necessity of absorbing in operations the losses due to the decline in metal prices which continued throughout the entire year, and which necessitated a substantial adjustment at the end of the year to place the inventory valuation on the basis of cost or market, whichever lower."

"Careful attention has been given by the management to affecting reductions in costs and expenses, and at the same time we have continued our development and expansion work into fields which we believe will ultimately prove profitable."

"We have maintained our established position in the industry, and look forward to a continuance of profitable operations upon the return of better business conditions."

## SPARKS-WITHINGTON CO. ISSUES DEALER BOOKLET

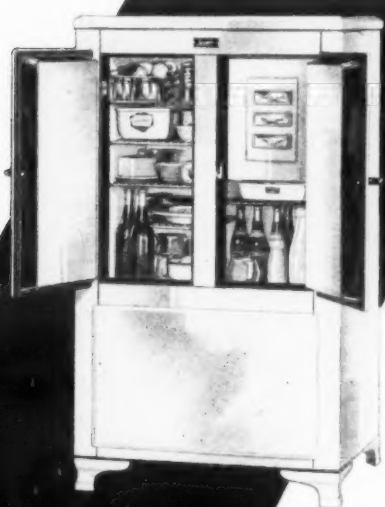
JACKSON, Mich.—Intended chiefly for dealers whose sales forces are not experienced in selling refrigerators is a 12-page booklet just mailed out by the Sparks-Withington Co., manufacturer of Spanton refrigerators.

The book gives various methods of starting the sales talk and of gaining quick interest; the reasons for the various Spanton features; important points on the qualities of electric refrigeration as a whole; the company backing the machine.

Suggested presentations fill about half of the pamphlet to aid the salesman in coordinating all this material. Salesmen are told not to assume that the prospect knows all the benefits of electric refrigeration.



# 1932 De Luxe CABINETS



MODEL  
D8



MODEL  
D10



MODEL  
D14

Never before, in 30 years experience, has Seeger been able to give so much value as in this New Line of 1932 De Luxe Cabinets — Beauty, Convenience, Durability and Food Preservation are the basic considerations in building these cabinets. Every factor has been carefully tested to make them as good as it is possible to build.

The continuous hinge — which allows the severe lines so much in style — and the black Bakelite Handle are in the modern decorative trend.

These Cabinets may be obtained in 8 ft., 10 ft. and 14 ft. cubic capacity.

*Illustrations show a low side cooling unit with porcelain front. This is for appearance only, as the units are furnished by those supplying the Electrical Machine Equipment, and not by the Seeger Refrigerator Company.*

BY  
**Seeger**  
SAINT PAUL

**SEEGER REFRIGERATOR COMPANY**  
SAINT PAUL, MINNESOTA

232 Fourth Ave.  
Fourth Ave. at 19th St.  
NEW YORK, N. Y.

655-57 So. La Brea Ave.  
LOS ANGELES, Cal.

666 North Wabash  
CHICAGO, ILL.

644 Beacon St.  
Kenmore Square  
BOSTON, MASS.



LITTLE STORIES OF INTERESTING  
PEOPLE  
IN THE REFRIGERATION INDUSTRY

# THE EXPANSION VALVE

By George F. Taubeneck

LITTLE STORIES OF INTERESTING  
IDEAS  
IN THE REFRIGERATION INDUSTRY

## Why Is an Ad?

Friendly enmity and even open antagonism between advertising and editorial departments of a newspaper are old stories.

From the standpoint of an advertising man, the editorial department exists merely to fill up the space he fails to sell.

From the standpoint of an editor, the advertising salesman is able to get orders only because of the good stuff which is being printed in the paper.

This traditional enmity, thank heaven, doesn't exist around the ELECTRIC REFRIGERATION NEWS office. Editorial and advertising departments are as friendly as members of the same lodge in a small town. About the only time the editor and advertising manager ever exchange words is when they pause to trade humorous anecdotes or commiserate with each other about approaching baldness.

One reason for this felicitous situation is the fact that Fred Brack, our advertising manager, is both a gentleman and a helluva good egg.

Another and more important reason is that Mr. Cockrell has wisely separated advertising and editorial departments completely.

If you should ask a member of the editorial department point-blank what the rate on a page ad is, he probably couldn't tell you.

If you should ask him to give six good reasons why you should advertise in the News, he'd probably be stumped.

Fred, on the other hand, never asks the editorial department to print, or refrain from printing, anything. And it's a good thing he doesn't!

## That 20-page Ad

This peaceful, all's-right-with-the-world relationship, however, is going to be endangered if Fred sells any more 20-page ads.

The editorial department serves notice right here and now that if he ever does a stunt like that again we're going to leave town and stay away for at least two weeks after the ad appears—or else put silencers on the telephones, hang "Danger—Men Working" signs outside our locked doors, and chain some toothy bulldogs to the entrance into the editorial sanctum sanctorum.

How ELECTRIC REFRIGERATION NEWS has been able to make an appearance the last two issues is still a mystery to us who put it out. Why? Because we have done practically nothing else but answer phone calls, telegrams, letters, and personal visits from men who wanted to know something about "this here Tricold proposition."

Where is its Detroit manufacturing division?

Who is behind it?

Is it a stock-selling scheme, or do they mean business?

Will this new-fangled box of theirs work?

What are their discounts?

Who is this man Potter, and what do you know about his past record?

Is the company sound and stable?

Answering the first question was easy. The Detroit manufacturing division is the Universal Cooler Corp., which puts its refrigerating unit into Rex cabinets here following the Tricold design.

The rest of the questions we couldn't answer. Business Manager George Congdon, who turns a cold and fishy eye on any order or a contract until the credit rating and business reputation of the concern is well established, had been mollified with cash in advance for the entire 20 pages, by the fact that R. G. Dun's report showed nothing wrong with the outfit, by the fact that the order had been placed by a reputable advertising agency, and by the fact that Universal Cooler and Rex were making the product.

## Come the Rumors

Days passed and still the inquiries rolled in. A drove of suppliers were after their business, and wanted names of men to see. Salesmen of competitive makes dropped in to have the Tricold machine further explained, so that they might arm themselves accordingly. Newspapers called long distance from all over the nation, seeking information.

And then came the rumors:

"It's just a stock-selling scheme. How did you ever fall for that?"

"This fellow Potter is just a wildcat promoter. Why didn't you look up his record?"

"There's nothing new about that machine. We tried the idea in our laboratory long ago and discarded it. Why didn't you ask us about it?"

"Say, I hear that this Tricold company is just a racket. What do you know about it?"

"Listen, I hear the big boys are all worked up about this Tricold business. Tricold must have something!"

"They tell me that the company won't last six months, that it has only \$50,000 worth of capital, and that it has already shot its bolt."

"I've been told that there's a nigger in this Tricold woodpile. Is there anything crooked about it?"

"Did somebody do a real selling job on that ad, or did it just come in through the transom?"

## G. E., Kegel, Majestic

Not since General Electric brought out its hermetically sealed unit have we witnessed so much commotion in the industry over a new product.

And the only instances in our memory which have occasioned so many rumors and so much concern were the Chicago code situation in the summer of 1929 and the Majestic hundred-dollar-refrigerator scare in the summer of 1931.

Both of these latter affairs were reported by the writer. Both were highly exciting, and both presented difficulties in getting the facts which were equal to the present situation. And again like "Tricold," each of these industry crises had the figure of one man dominant.

In the Chicago code battle it was Health Commissioner Arnold H. Kegel, a showman of Morris Gest calibre, and a trouble-stirrer of the first water.

At Majestic it was Bill Grunow, the production genius who had knocked the bottom out of the radio market and who told everybody he would do the same thing with refrigerators.

At Tricold the man is T. Irving Potter, about whom everybody seems to have HEARD something, but concerning whom nobody seems to KNOW anything.

## We Investigate

Between answering inquiries about Tricold and nursing a friendly little case of the flu, which was coddled in turn by every member of the editorial staff except Gertie the Good-Health Girl, members of the staff had too much on their hands to leave the office.

Last Thursday, however, the Valve went to Buffalo, prepared to lay siege to the Tricold citadel until he found out what in tunket it was all about. And, gentlemen, we think we have some information for you.

## Buffalo Business Men

One of the advantages of being An Editor on Wheels is that after a certain number of visits to a city a fellow gets to know some people there intimately enough that he can depend on them for help in getting whatever he wants when he goes there.

At Buffalo we spent considerable time with responsible Buffalo business men whom we know, trying to gather whatever facts we could about T. Irving Potter and the Tricold Refrigerator Corp.

Almost invariably came the answer:

"That man Potter is a real salesman. Any chap who can get the business men of this town in these times to put money into a new enterprise MUST be good."

For several months prior to the spectacular announcement of his refrigerator in ELECTRIC REFRIGERATION NEWS, T. Irving Potter maintained a suite in the Touraine hotel in Buffalo.

There he interviewed a notable list of Buffalo men of means. According to one Buffalo business man, Potter "went right down Main Street and arranged interviews with everybody who seemed to have anything in the till."

The result—again according to Buffalo business men—was that Potter sold almost every man he interviewed on the idea of contributing something to the kitty and joining the refrigeration game.

That, gentlemen, is where most

of the capital for the Tricold Refrigerator Corp. came from: Buffalo business men. And there is, contrary to prevalent rumors afield, some capital.

## Bill Landsheft

After getting all the information we could from business friends in Buffalo, we dropped in to see Bill Landsheft, whose advertising agency prepared that mighty 20-page advertising shot which was heard 'round the refrigeration world and which is still reverberating.

Incidentally, it might be remarked that we have heard nothing but praise for the advertisement itself and the manner in which the advertising agency handled it.

One other thing was universally commended: the prices were "right." Everything else about Tricold has been subjected to sniping and sometimes to heavy barrages.

Mr. Landsheft is a well-groomed, likeable young chap who is seething on the inside and bubbling over on the outside about this new refrigerator. If ever a man was sincere about wanting to do a thorough and adequate job, Bill is that man.

Constantly he talks merchandising methods and policies, and he can ask more questions in 10 minutes than you and you or you could answer in a day, if at all.

Bill decided he'd like to go along and see the show, so together we taxied over to 296 Delaware Ave., where T. Irving Potter and his cohorts hold forth.

After seeing that 20-page splurge, I was prepared to step into a sumptuously furnished suite of offices, possibly done in a modernistic fashion.

Nothing of the sort. We walked upstairs to the second floor, picking our way amongst painters who were touching up the iron railing.

Opening the door marked: "Tricold Refrigerator Corp. Entrance," we found men laying linoleum in the modestly furnished reception room. It was anything but imposing.

## Friend Steinmetz

Bill gave a girl the high-sign, and in a trice she produced Mr. Halsey.

Clad in summery gray, Mr. Halsey greeted us warmly—he's a good greeter—assured us that Mr. Potter would be in soon, and bade us walk into Mr. Potter's office pending the latter's arrival.

Irving Halsey is Potter's man Friday. Like Landsheft, he is richly enthusiastic and quite concerned over the relative merits of various merchandising ideas. He is in his thirties, likes to talk about his family, is quite pleasant.

When I walked into Potter's office the first thing to catch my eye was a photograph of Charles Proteus Steinmetz, the deeply mourned wizard of Schenectady.

Upon inspecting this photograph I found written on it, these words:

"My friend T. Irving Potter  
March 1, 1932  
Charles P. Steinmetz."

With Halsey and Landsheft there soon developed a heated discussion about the possibilities in department store merchandising of electric refrigerators.

During that time a very busy secretary who never leaves Mr. Potter's office for more than a moment handled a number of phone calls for him with a confidence indicating that she knew just what Mr. Potter would say had he been there.

Also during that period Halsey pulled Landsheft outside the room several times for confidential and mysterious interludes.

Entered then Mr. Potter.

## T. Irving Potter

No matter what you expect, T. Irving Potter will surprise you. He looks like no man I've ever seen before. Slight, thin—yet rugged—about 45 years old, he walks with a spry step and begins talking the minute he sees you.

He has carelessly combed brown hair, shaggy eyebrows, a startling pair of big round eyes (orbs which are big and round usually indicate innocence and credulity; Mr. Potter's suggestiveness, and sizing-you-up-ness), a stubby chin, and perpendicular ears.

Every inch an individualist, he makes no pretense of putting up a front and shows no evidence of ever leaning toward conformity with any accepted standards.

Within five minutes I knew why the Buffalo business men with whom I had talked spoke in awed tones of his salesmanship. You have to hang onto your chair to keep a grip on reality when you listen to him talk.

He was one of the most difficult men to interview I have ever come across.

There were a number of questions I wanted to ask, and during the course of an afternoon I managed to ask them all, but so fascinating is this man that it took considerable will power to make myself maneuver the conversation back into the channels I wanted it to take.

So spellbinding is the president of Tricold that during the course of two days I was an hour late to a dinner party, three-quarters of an hour late to a luncheon engagement, an hour late to an afternoon date, and missed two trains—all because of his hypnotic conversational powers.

Having devoted considerable time during the last six years to interviews and the reporting of speeches, I thought myself reasonably immune to the wiles of silver tongues and facile imaginations. *Mais non.* Here was something different.

Eventually, however, persistence bearded the lion.

## We Get Some Facts

On the second day we really got together. Not only did Mr. Potter present a complete demonstration of his refrigerators (contrary to the general rumor, more than one have been made, and you can go up to the Tricold office in Buffalo any day and look at them), but he outlined his manufacturing and distribution plan, told something of his previous life and experiences, and finally showed me the figures on his company.

Gentlemen, I was shown just how much capital Tricold has in the sock, the salaries of its employees—from Potter on down, how much office rent is costing, what the agreements with Rex and Universal Cooler are, the agreements with distributors, advertising plans, and the overall budget.

All this, of course, is confidential. It was given me on the basis that the impression on an inquirer would be much better if I could look wise and say, "I know, but can't tell," than if I would have to say, "We don't know."

It is possible, however, to draw a conclusion. If the present plans are not radically altered, and if the business is not grossly mismanaged, Tricold has enough money to stay in business for quite a spell.

Operating plans are extremely flexible, and only through an unusual combination of circumstances could the company possibly be caught in a jam.

Moreover, members of the syndicate announce that THERE IS NO STOCK FOR SALE. They have all the money they need for present purposes.

The business is being run as a lean operation. That's why, according to Potter, the offices are so unimpressive. The men in the concern are accepting low remuneration now in anticipation of larger returns in the future.

They are expecting a long, hard pull—a real battle—and are preparing for the siege.

## Manufacturing Plans

"You can find 10 good manufacturing organizations for every one good sales organization in America today," declares Mr. Potter. "Finding a factory is no trouble at all."

"If I should set up my own factory, it would not only take a great deal of additional capital, but I would be gambling salaries of production executives and factory labor against profits of a manufacturing concern."

"I prefer to place my bets that in these days of idle factories I can get more for my money by buying my product ready-made (according to my specifications and patents) than I can by setting up my own production organization."

Selecting Universal Cooler as his manufacturing operation was a smart move. The Tricold design is a new departure. The Tricold company is unknown. Hence grave doubts could be cast upon the Tricold merchandise were it not for the fact that it is made of standard

parts and assembled by a well-established concern of unimpeachable reputation.

Rex cabinets, for instance, have been used by many of the leading manufacturers in the industry. The Universal compressor, it is universally agreed, is an efficient compressor. Everybody knows that American Radiator Castin-coil cooling units, American Radiator expansion valves, McCord cooling coils, and Penn controls will work.

Moreover, the entire job is assembled by a manufacturer which is one of the Nema group—the elite of the electric refrigeration industry. Hence, figures Potter, it would be in poor taste for manufacturers in this group to cast aspersions on his merchandise.

As liaison man between Tricold and Universal Cooler, Mr. Potter has appointed Edward Carlson, formerly vice president in charge of production of Remington-Rand. Mr. Carlson's title will be "production manager."

Just as an aside, it might be mentioned that I ate some ice cream mixed up by Mr. Potter's efficient secretary, put in a freezing tray in one of the Tricold refrigerators in his office suite, and frozen in a jiffy. The texture was excellent.

Which reminds me: If you ever want a free testimonial, just offer me something to eat. Quickest way to a man's heart, y'know.

## Distribution Plans

Not having any factory to keep busy, the Tricold Corp. can work on a flexible schedule. Hence there will be no quotas for distributors. The latter will be given free rein in their merchandising plans, and will simply be expected to sell as many refrigerators as they can move with profit.

Volume, in other words, is not the goal.

During the first year distribution will be confined to points which are within an overnight train ride from Buffalo. Expansion is planned for the second year, and at the end of the third year Potter hopes to have national distribution.

Eight field representatives have been in training at Buffalo for some time, and are now ready to go out on the road to line up distributors and dealers.

The Valve met and talked with these representatives, and found them straining at the leash in anticipation of the job ahead.

Directing the efforts of these representatives is G. E. Bahr, a substantial appearing citizen who was formerly Pacific Coast representative for L & H (A. J. Lindemann & Hoverson Co.) electric stoves.

Inasmuch as Potter detests following beaten tracks, and just loves to upset apple-carts, you may expect some new merchandising schemes to emanate from his imaginative brain. He will not do as has been done—you may count on that.

## Advertising Plans

Tricold refrigerators will not be advertised nationally this year, and probably not next year. Advertising will be confined almost entirely to local newspapers in cities in which Tricold refrigerators will be sold.

Why did Tricold blow itself to a 20-page ad in ELECTRIC REFRIGERATION NEWS? Potter will tell you that he figured it was the cheapest and quickest way to get everybody's attention.

He wanted that name, Tricold, known far and wide. Moreover, in 20 pages he had a chance to outline his complete story.

Now, whenever a field representative calls on a distributor, and that distributor claims he has never heard of Tricold, he's a liar. The 20-pager did just what Potter wanted it to do—it stirred up a tremendous amount of talking and gossip.

The greatest obstacle he could have, he reasoned, would be ignorance—having people ignore and pooh-pooh him. Now, he thinks, his representatives can walk into almost any distribution office in the industry and get a hearing, because the whole industry is curious about the line, the proposition, and the company.

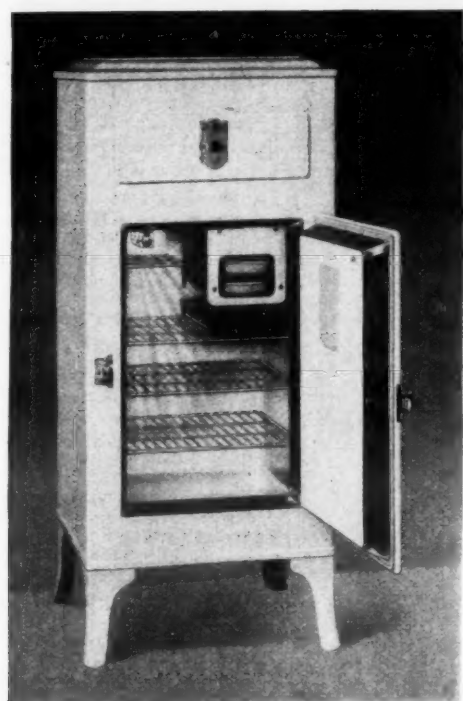
## A Bit of History

T. Irving Potter came to Buffalo about a year ago from Portland, Ore., where he was associated with the Potter Refrigerator Corp. This concern operated in a small way in Portland, Ore., selling both domestic and commercial electric refrigeration equipment.

The refrigerating unit manufactured by the Potter Refrigerator Corp. was (Concluded on Page 12, Column 1)



# 1932 is a Majestic Year



This great new line of Majestic deluxe refrigerators — built to the highest quality standards, and priced at figures below anything previously thought possible—tells at a glance the reason for the sweeping sales-gains already registered by Majestic in the early months of 1932. Back of this line is Majestic's new eight-and-a-half-million-dollar plant, equipped with the most modern facilities for superior, low-cost production. Back of it, too, is an organization keyed to enthusiastic efforts—and a distribution policy that more than ever assures a big and profitable 1932 for Majestic dealers.

#### MODEL 245

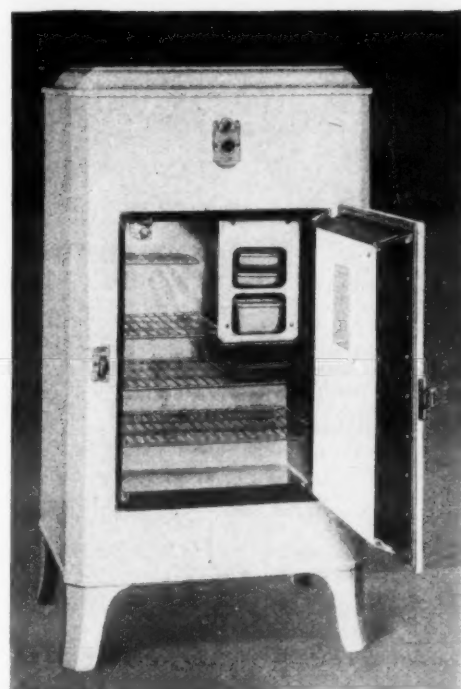
Food Storage Area:  
9.7 Sq. Ft.  
Exterior Dimensions:  
Height, 55<sup>3</sup>/<sub>8</sub>; Width, 24<sup>7</sup>/<sub>16</sub>;  
Depth (over hardware), 25<sup>1</sup>/<sub>8</sub>;  
Ice Trays:  
2 (1 Easy-Out)  
Pounds of Ice:  
3<sup>3</sup>/<sub>4</sub> per freezing  
Cabinet Finish: Elasto  
Automatic Interior Light

**Price \$159.50** F. O. B. Chicago

#### MODEL 255

Food Storage Area:  
10.6 Sq. Ft.  
Exterior Dimensions:  
Height, 55<sup>3</sup>/<sub>8</sub>; Width, 29<sup>7</sup>/<sub>8</sub>;  
Depth (over hardware), 25<sup>1</sup>/<sub>8</sub>;  
Ice Trays:  
3 (1 double depth, 1 Easy-Out)  
Pounds of Ice:  
7<sup>1</sup>/<sub>2</sub> per freezing  
Cabinet Finish: Elasto  
Automatic Interior Light

**Price \$189.50** F. O. B. Chicago



## Majestic Refrigerator

#### MODEL 706

Food Storage Area:  
12.5 Sq. Ft.  
Exterior Dimensions:  
Height, 60<sup>3</sup>/<sub>4</sub>; Width, 29<sup>3</sup>/<sub>8</sub>;  
Depth (over hardware), 23<sup>3</sup>/<sub>8</sub>;  
Ice Trays:  
3 (1 double depth, 1 Easy-Out)  
Pounds of Ice:  
7<sup>1</sup>/<sub>2</sub> per freezing  
Cabinet Finish: Porcelain  
Automatic Interior Light

**Price \$244.50** F. O. B. Chicago



#### MODEL 275

Food Storage Area:  
12.5 Sq. Ft.  
Exterior Dimensions:  
Height, 59; Width, 34<sup>1</sup>/<sub>4</sub>;  
Depth (over hardware), 25<sup>1</sup>/<sub>8</sub>;  
Ice Trays:  
3 (1 double depth, 1 Easy-Out)  
Pounds of Ice:  
7<sup>1</sup>/<sub>2</sub> per freezing  
Cabinet Finish: Elasto  
Automatic Interior Light

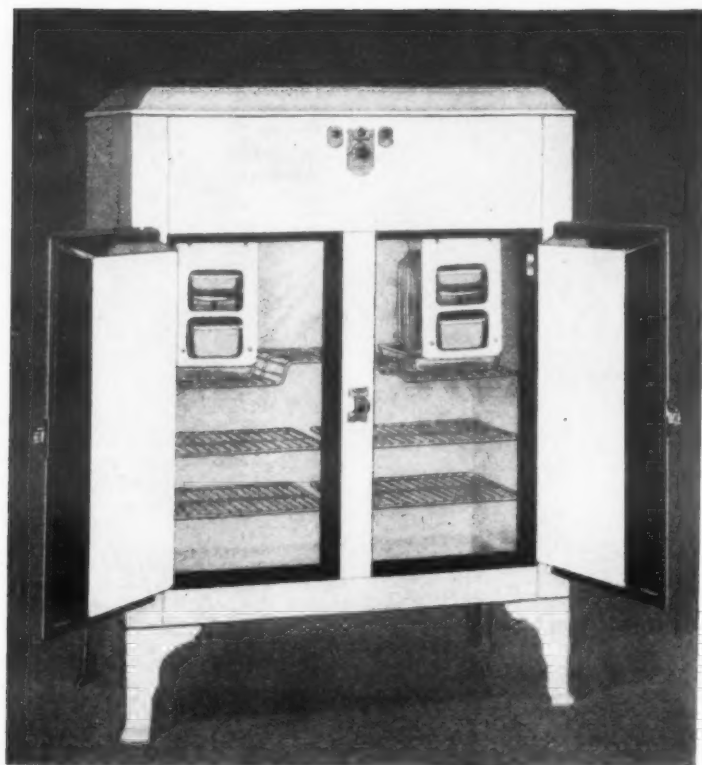
**Price \$209.50** F. O. B. Chicago



#### MODEL 710

Food Storage Area:  
18.8 Sq. Ft.  
Exterior Dimensions:  
Height, 59<sup>1</sup>/<sub>4</sub>; Width, 44;  
Depth (over hardware), 27<sup>1</sup>/<sub>2</sub>;  
Ice Trays:  
6 (2 double depth, 2 Easy-Out)  
Pounds of Ice:  
15 per freezing  
Cabinet Finish: Porcelain  
Automatic Interior Light

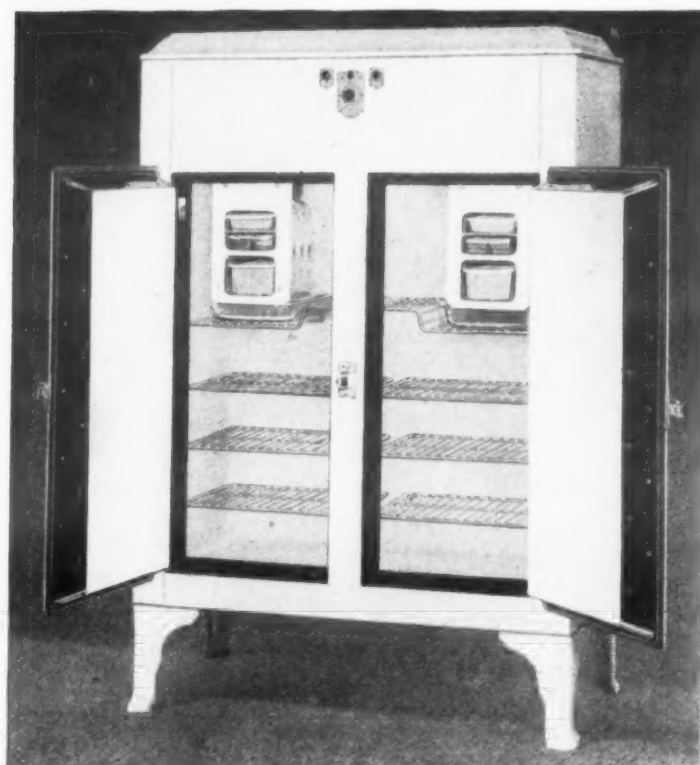
**Price \$425.00** F. O. B. Chicago



#### MODEL 712

Food Storage Area:  
23.2 Sq. Ft.  
Exterior Dimensions:  
Height, 65<sup>1</sup>/<sub>4</sub>; Width, 44;  
Depth (over hardware), 27<sup>1</sup>/<sub>2</sub>;  
Ice Trays:  
6 (2 double depth, 2 Easy-Out)  
Pounds of Ice:  
15 per freezing  
Cabinet Finish: Porcelain  
Automatic Interior Light

**Price \$450.00** F. O. B. Chicago



## GRIGSBY-GRUNOW COMPANY, CHICAGO

and affiliates, with factories at Chicago, Toronto, London, Bridgeport, Oakland, and Sao Paulo, Brazil

**Makers of the Famous Majestic Radio—3,000,000 In Use**



LITTLE STORIES OF INTERESTING  
PEOPLE  
IN THE REFRIGERATION INDUSTRY

# THE EXPANSION VALVE

By George F. Taubeneck

LITTLE STORIES OF INTERESTING  
IDEAS  
IN THE REFRIGERATION INDUSTRY

(Concluded from Page 10, Column 5)  
designed by Mr. Potter, who began work on it more than five years ago.

Especially active was this concern in the commercial market. After inventing the machine and organizing the company, Mr. Potter spent most of his time selling the product. He was not listed as an executive.

## Better Business Bureau

While selling Potter electric refrigerators he drove into a stymlie with the Portland Better Business Bureau by advertising "Automatic Defrosting and Faster Freezing."

Mr. Potter claims that he offered to make a public demonstration of his automatic defrosting device in conjunction with a public fast-freezing test of his refrigerator against that of the company which lodged the complaint with the bureau, the results to be advertised to the world.

The Bureau refused to sponsor such a test, Mr. Potter states, and so he in turn refused to prove his advertising points in any other manner. He continued to advertise automatic defrosting and faster freezing.

According to Mr. Potter, there still exists a bit of enmity toward him on the part of the Portland Better Business Bureau as a result of the incident. That the feeling is no more than personal, however, is indicated by the fact that both the Detroit and Buffalo Better Business Bureaus give Mr. Potter a clean bill of health.

## Tricold Idea

During this period of manufacturing and selling refrigerators on the Coast, Mr. Potter conceived the idea for the design of the Tricold box.

He also worked out a distribution scheme for it, and selected Buffalo as a likely center of operations. Moving there, he gathered in capital for the enterprise and started to work.

## Selling Experience

Mr. Potter is an odd combination of inventor and salesman. In his early days he invented a coin-changing machine, which was marketed by the Coin Machine Mfg. Co., and which did considerable business on the Pacific Coast until the widespread use of paper money made the machine more or less obsolete and the business unprofitable.

Even earlier he was selling real estate. His father was a large real estate operator in California, and at the age of 17 T. Irving got a portfolio and went to work cold canvassing.

Within a few years he was his father's leading salesman, and shortly thereafter became sales manager of the company's branch in Portland, Ore.

## Engineering Experience

Some 15 years ago he left Portland, went to New York City, and became a consulting engineer. During that time he made contacts with Steinmetz, who suggested to him the idea of designing a small refrigerating machine.

One of his connections in New York City was the Federated Engineers Development Co. (1922), and another was the Syndicate Service, Inc.

For a time he was president of the Fedco Number Plate Corp., which merchandised one of Mr. Potter's patents—a device for positive identification of automobiles. The device was widely used.

Failing health caused him to sell everything he had and move back to Portland. To occupy his mind during the process of recuperation he followed the suggestion of Steinmetz and worked on the design of a refrigerating machine. When he got what he wanted, he patented it.

Further studies resulted in the patents employed in the Tricold.

Mr. Potter is preparing for a fight. He knows that his hardest job will be the establishment of company good will, and maintains that all the rumors started by his 20-page ad were just what he expected.

He is a man of many ideas. He is shrewd and resourceful. Some interesting developments may be expected.

## P. S.

Just as this issue of ELECTRIC REFRIGERATION NEWS was going to press, the following telegram was received in re-

sponse to a wire sent to the Chamber of Commerce at Portland, Ore.:

CA469 46 DL 2 EXTRA COLLECT  
HX PORTLAND ORE 7 422P  
MARCH 7, 1932 PM 8:22

GEORGE F. TAUBENECK  
ELECTRIC REFRIGERATION  
NEWS DETROIT MICH  
POTTERS EXPERIENCE HERE  
FOR PAST FEW YEARS HAS BEEN  
AS INVENTOR AND CREATOR OF  
REFRIGERATION EQUIPMENT  
AND WITH OTHERS SECURING  
FUNDS FOR EXTENSIVE THOROUGH  
ANALYSIS AND DEVELOPMENT  
WORK STOP IN THIS FIELD  
HE HAS BEEN RECOGNIZED AS  
QUITE ABLE AND COMMANDED  
GENERAL CONFIDENCE

W D B DODSON GENERAL MAN-  
AGER PORTLAND CHAMBER OF  
COMMERCE.

## More Cuban Comments

We are still getting letters on the travelogues written during the Valve's recent southern trip. Jimmie Davin, for instance, writes from West Hartford, Conn., to say: "Let me tell you how much I enjoyed my recent trip to Cuba, taken through the medium of your long article on that island."

H. G. Bogart, Jr., General Electric refrigerator distributor in Toledo, Ohio, who was in Havana at the same time, writes:

"I simply want to express my appreciation to you for the very fine article in the ELECTRIC REFRIGERATION NEWS a fortnight ago on the trip to Cuba. This is an expression of gratitude because none of us in the party made any systematic attempt to record our own experiences."

"Reading your article after returning to Toledo brought back a lot of things which we had experienced and wanted to keep more or less as a permanent reminder of the trip, plus the fact that you found a lot of other interesting things about Cuba which we failed to discover."

"I am sure that Mr. and Mrs. Barger and Mr. and Mrs. Head, who were with us on that pleasant journey, feel the same as Mrs. Bogart and I do, and your article now reposes in the permanent records of past experiences which we keep in our home as a reference file to go back to in years to come and revive pleasant past experiences."

D. Agler, a reader in Columbus, Ohio, pens:

"I should like to write to the 'Editor on Wheels' and express to him inarticulately how much I enjoyed his informal dissertations on Miami, Cuba, and New Orleans."

"This may sound a little like the advertisements for Peruna—you know, after taking two bottles of your wonderful medicine I was able to do my own housework and now I look forward to doing my own washings—but I came home Saturday dead tired to find your contribution to the electric refrigeration

## Back of White Mountain



Philip Ellis Stevens and Isaac Blaine Stevens are the guiding factors of the Maine Manufacturing Co. which makes White Mountain refrigerators. A short biographical note about these men appears below.

world in the mailbox. The New Orleans story cheered me up immensely and made me feel like going back at 'em that night.

"Your similes and descriptive words in that story were well-nigh perfect. You have a wonderful command of the English language and seem to be able to have the correct word for every description."

From Cranston Thomas in Tampa, Fla., comes this:

"I enjoyed your story on Miami, and also your New Orleans story. I know both cities well, and was at one time on the staff of the New Orleans Item, when the Picayune took me at a larger salary, or shall I use the term of the preacher, who said 'God called him to a larger charge.'"

"Sorry you missed Tampa, for you missed the only commercial city in the state."

"However, you went to Cuba and you saw everything. Next time you go I should like to give you a letter of introduction to my very dear friend, Alberto Ruz, of the banking firm of Mendoza et Caa, the largest private bankers in Havana, and the owners of several of the best hotels."

"I taught Alberto the English language many years ago, and he speaks it more correctly than I do myself. We were both in jail together in Haiti for disrupting the Presidential review of the troops on the Champs des Mars, when we threw handfuls of pennies among the troops in front of the grandstand, and had generals, captains, lieutenants, and the ragged army in a wild scramble for the largess. It took the German Consul, the British Charge des Affairs, and the American Minister a whole day to get us out, and we sailed the next day for Jamaica, a couple of outcasts. The negro president was 'very much insult.'"

## Chips Off the Block

Two sons who have followed in their father's footsteps are Philip Ellis Stevens and Isaac Blaine Stevens, president and vice president of the Maine Mfg. Co., Nashua, N. H.

Their father, the late I. Frank Stevens, established the company in Maine 57 years ago to produce ice refrigerators. Soon after, the concern was moved to Nashua, N. H., where it gradually expanded to become one of the largest ice box producers in the United States.

Following their father's death seven years ago, the two sons assumed active management of the property. Last year, the company increased its sales over 12 per cent and was one of the few makers of ice refrigerators to close its year "in the black."

Thomas L. Reynolds, who heads the company's electric refrigeration division, has had many years of experience in the furniture industry. Francis H. Maas is secretary, and Gordon M. Blakely is factory superintendent.

This little historical note is printed in the Valve to answer some verbal inquiries we have had recently about this concern and its personnel. More for you later.

## Frank Wolf's Old Users Book

More than three years ago Frank Wolf, genial distributor of General Electric refrigerators in Buffalo, N. Y., published a 24-page booklet containing names of G. E. refrigerator owners in Buffalo, listed alphabetically by streets.

He instructed his salesmen to use this booklet constantly, and to have prospects call up persons listed in it whom they knew. It worked very well. Not long ago Mr. Wolf's sales pro-

motion department came across a cache of these booklets. Inasmuch as they were quite out-of-date, Mr. Wolf was asked if it would be all right to put them in the paper-bailer and get them out of the road.

"Hell, no!" exploded Frank. "Why, those booklets ought to be the most valuable sales weapons we have. Every user listed in those books has a refrigerator which has outlived its three-year guarantee. 'We don't have any complaints from those folks, do we? All right, then every one of them ought to be a first-class reference for G. E. service.'"

"Use those books!"

Frank has one of the most efficient distributing layouts we have ever come across. His building occupies a prominent corner on Main street, and much traffic passes by. His large and expansive showroom can be seen by pedestrians and motorists on either street.

At the rear of the showroom are the offices and a big "schoolroom" for his salesmen. Another rear corner is being utilized for a display of commercial refrigeration equipment.

In the basement is his stockroom, where he keeps a supply of boxes for sales made by his own force, and where materials and supplies for his office and salesmen are kept.

Within five minutes Frank can make a circuit of his entire establishment, see who is on the job and who isn't, keep up-to-the-minute on the latest happenings in his organization, and spread good cheer.

Within an hour he can get together complete inventory figures, as well as figures on almost any other phase of the business.

His schoolroom is equipped with a stage, a motion picture projector and screen, chairs, and tables. Parties are held there for the salesmen and their wives, as well as the regular sales meetings.

At present the Frank Wolf chapter of the Toppers Club is going strong. Rope necklaces are provided for those salesmen who make quotas for the month. Those who made quota last month wear a gold rope; those who made it month-before-last but not last month wear a blue rope; those who have made it every month wear a gold-and-blue rope. Rivalry is keen.

## Soldiers All

In view of the rather alarming developments across the Pacific just now, the Monitor Top War Campaign seems quite appropriate. General orders issued to all salesmen pleased us, as did Walter Daily's recruiting advertisement. We quote:

### GENERAL ORDER

It is the duty of all soldiers to memorize the following:

- 1—To take charge of my post and canvass every house in it.
- 2—To walk my post in a military manner, keeping always on the alert.
- 3—To see a User by nine and start the day fine.
- 4—To make 25 new interviews a day.
- 5—To make no attempt at selling when canvassing.
- 6—To make night appointments for every week-day night.
- 7—To know the name of every person called on.
- 8—To be neat and courteous.
- 9—To take advantage of all selling tools and information available.
- 10—In any case not covered by instructions, to call on a superior officer for assistance.
- 11—To make a complete and correct report for each day.
- 12—To be watchful, especially at night and, during the time for challenging, to challenge all persons that should have a General Electric refrigerator, and to allow no one to pass without a valid reason.

### ENLIST

In the Army of Refrigeration and be a TOPPER

Recognition for Distinguished Service. Chance for promotion to Commissioned Officer

Train for a Profession—Be a General Electric Refrigerator Salesman

ENLIST NOW AND Let's Go Over the Top With The Monitor Top

## Personal

Jules Gettelman, Buffalo's leading Topper: That hasenpfeffer was as tender as your wife's heart, and you know it, old topper!

## Export Directors Confer on Business



W. D. Loomis, associate manager, J. C. Mathews, general manager, and H. M. Robins (left to right), president of H. M. Robins Co., export factor for Copeland Products, Inc., confer in their Detroit office.



## HARRISON'S ARMY FOR G. E. WAR MOBILIZES

NEWARK—Military forces of "State Harrison of Refrigerania" are ready for the signal to start the spring offensive on March 14, according to Philip H. Harrison, distributor of General Electric refrigerators in this area.

"A state of war against Sales Resistance has existed for about three weeks," said Mr. Harrison. "Military organizations of each state are divided into four units: infantry, cavalry, engineers, and aviation-artillery. Appointments have been made as follows:"

Infantry (retail sales): Lieut.-Col. T. A. Power, Capt. O. W. Nelson, Capt. R. G. Kaehler, Capt. E. H. Dreyer; Cavalry (apartment house sales), Lieut.-Col. A. B. Judge; Engineers (commercial sales), Lieut.-Col. J. S. Osterstock, Capt. J. L. Mahoney, Capt. L. B. Krebs. Aviation (Central Station), Brig. Gen. B. A. Seiple; Artillery (dealers), all with the rank of Brigadier-General, R. E. Babson, G. S. Hasbrouck, S. W. Carroll, T. H. Dougherty, R. J. Morrison, S. Stanton, W. Wanner, H. B. Selvin.

First and second lieutenants and non-commissioned officers in the "Army" will be chosen from the salesmen as follows: First lieutenant, salesmen making 200 per cent of quota; second lieutenant, salesmen making 150 per cent quota; sergeant, salesmen making 100 per cent of quota; private first class, salesmen making 50 per cent of quota; buck private, all salesmen at the start.

## GIBSON INITIATES 'GOLDEN RULE' IN TRAFFIC DRIVE

GREENVILLE, Mich.—To aid in developing greater tolerance and courtesy among automobile drivers, the Gibson Electric Refrigerator Co. has adopted a "Golden Rule" which is attached to the reverse side of every Gibson tire cover which is being furnished its dealers and owners throughout the country.

In addition, every Gibson dealer and distributor has been instructed to report misdemeanors on the part of drivers carrying the Gibson tire cover.

The "Golden Rule" reads as follows: "When you place this tire cover on your car you are immediately identified as a personal representative of the Gibson Family. If you abuse the rules of the road, either through violation of traffic laws or common courtesy to other drivers or pedestrians, a distinctly unfavorable impression is registered in the mind of the public against the name 'Gibson.'"

"Help us improve driving conditions and create a favorable impression for the product, shown on your spare tire. Thanks for your cooperation."

## NORTHWEST PENNSYLVANIA KELVINATOR FORCE MEETS

ERIE, Pa.—Kelvinator dealers of northwest Pennsylvania attended their annual convention here March 2, with Edward A. Semmence, of the Star Electric Co., Kelvinator distributor, as host to the group.

Representatives from the factory who were guests at the meeting included G. R. Ewald, district manager; H. A. Jacobi, district service manager; Joseph Dohany, assistant to the regional director; and R. I. Eshman, of the commercial division, all of whom were on the program.

Frank Moening, of the Donaldson Lithograph Co., Newport, Ky., showed moving pictures of the factory and details of Kelvinator manufacture.

A complete line of domestic and commercial refrigerators was on display.

## LEONARD MEETING HELD BY SYRACUSE DISTRIBUTOR

SYRACUSE, N. Y.—The Warner Distributing Corp., Leonard refrigerator distributor in the Syracuse area, held a distributor-dealer meeting at the Onondaga Hotel, Syracuse, N. Y., Feb. 25.

R. I. Petrie, general sales manager; A. M. Taylor, director of advertising; B. T. Roe, district sales manager of the Leonard Refrigeration Co., were among the speakers. Others on the program were S. E. Meyers of the Refrigeration Discount Corp. and E. L. Triffitt of Brooke, Smith & French, advertising counsel.

## CLARKSBURG, W. VA., DEALERS FORM LOCAL BUREAU

CLARKSBURG, W. Va.—Every refrigerator dealer in this city is now a member of a newly organized Electric Refrigeration Bureau.

Officers of the new organization are M. E. McDonald of the McDonald Tire & Battery Co., chairman; and Lawrence Souders of Parsons-Souders Co., secretary.

Plans have been laid for an electric refrigeration show around the middle of the month.

# for 1932 sell PERFORMANCE

**M**R. AND MRS. CONSUMER are educated! Today's public demands performance—a demonstrable tangible promise of performance.

Beautiful boxes—inconsequential gadgets—are not enough. With boxes as handsome, and as modernly equipped, as any in the industry, Zerozone still insists that the UNIT is the thing: *the refrigerator with demonstrable unit-superiority is the best—the most profitable refrigerator to sell.*

The Zerozone Unit is undoubtedly the finest unit it is possible to make!

Made completely (all but the motor) under one roof in the famous Zerozone precision factory with a fine tradition of glowing performance since

pioneering days, every Zerozone Unit is oversize—actually larger—than standard for each size of box! You can *show* this to your customer, *sell* on the strength of it.

Extra freezing speed, extra economy, extra life, extra dependability, all come from the EXTRA capacity of the Zerozone Oversize Unit. This wins business—KEEPS business—makes Zerozone franchises increasingly valuable.

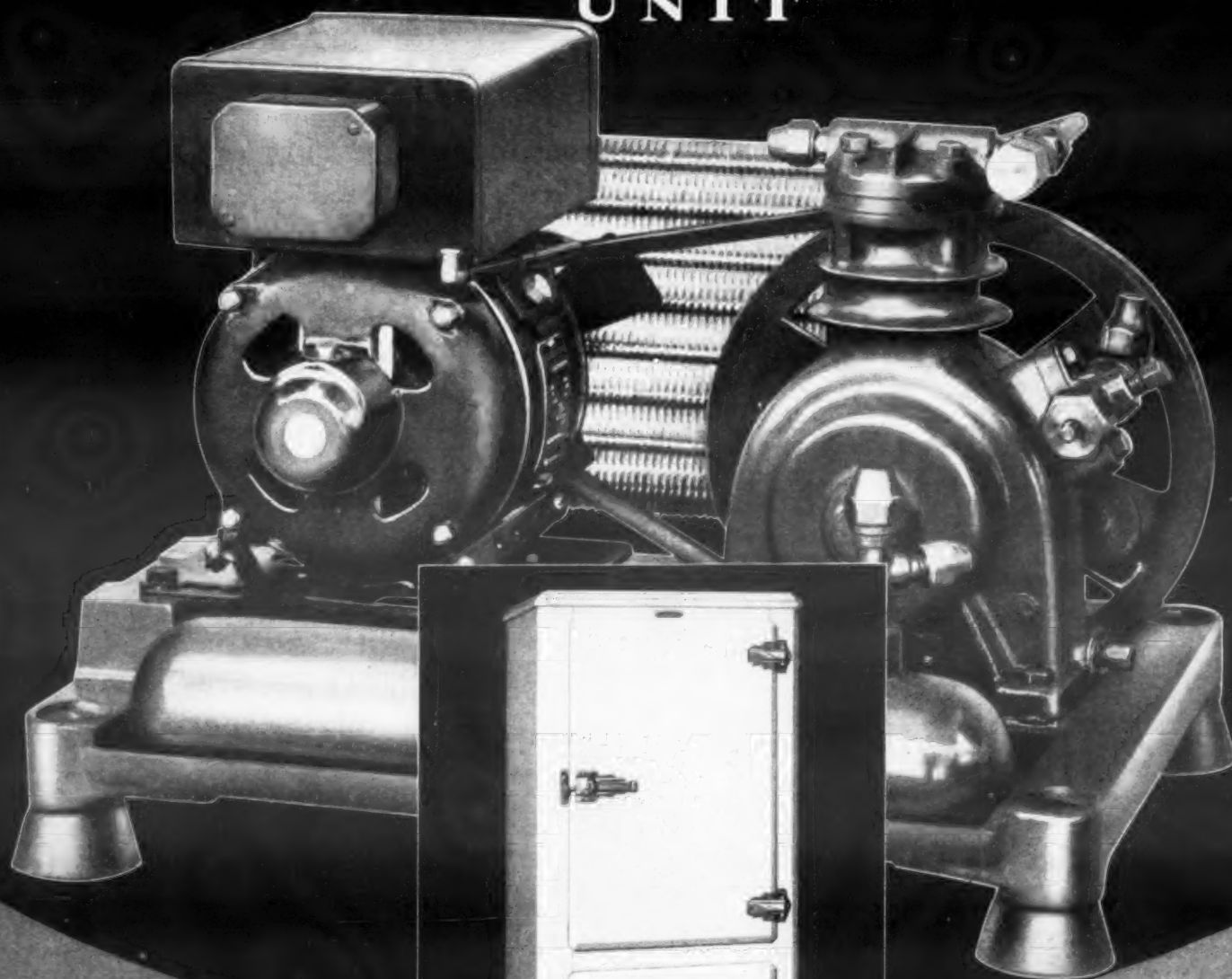
The Zerozone Distributor-to-Dealer-to-Consumer RESELLING plan creates profitable selling. A few distributorships still open. Rite or wire.

**ZEROZONE, 40 East 49th Street, New York City**  
Factory: Chicago, Ill.

# Zerozone

*The Refrigerator with the*

# OVERSIZE UNIT



A COMPLETE LINE OF SIZES

COMMERCIAL AND DOMESTIC



## TEMPERATURE EFFECT SUBJECT OF SURVEY

BOULDER CITY, Colo.—Scientific study of the effect of temperature on man will be made this summer here and at Hoover Dam by scientists from Harvard University. It was announced by the Bureau of Reclamation, Department of the Interior, Feb. 27.

Exhaustion, prostrations, and even death from the excessive heat at Hoover Dam have raised many problems for the protection of the workers. The temperature at times reaches 128° F.

### Five Investigation Subjects

Preliminary plans for the survey involve five subjects of investigations: first, clinical studies of men suffering from heat exhaustion with special attention to the composition of the blood, nature of diet, water intake, and working conditions.

Second, experimental studies of diet modifications, particularly with respect to salt and water. For this purpose, according to Dr. D. B. Dill of the Fatigue Laboratory of Harvard University, two members of the group making the study may go on a controlled diet for part of the summer.

Third, study of physical performance on the bicycle ergometer (an instrument for measuring energy expended) in three or more environments: in the laboratory at Boston, the laboratory at Boulder City, in the open at Boulder City if possible, and in the canyon where work is going on.

### Observation of Large Group

Fourth, observation of a large group of workers with the aim of developing a test to measure the ability of a man to withstand work at high temperature. Certain tentative tests are already proposed, such as the change in heart rate with posture or with a simple exercise.

Fifth, study in human relationships and the morale of the individual worker in relation to the type of group organization.

Dr. Dill and five others will make the study in the period from May to September. Arrangements are under way at Boulder City by agents of the Reclamation Bureau to cooperate with the group.

## A. D. BARBER HEADS OMAHA ELECTRIC LEAGUE

OMAHA—A. D. Barber, general manager of Graybar Electric Co., was elected president of the Omaha Electric League at the general meeting just held. The Electric League promotes the sales of electric refrigerators, radio, and other electric appliances.

## FRIGIDAIRE DEALERS MEET IN JACKSON, MISS.

JACKSON, Miss.—Frigidaire dealers closed a three-day convention here last week at the Robert E. Lee Hotel. Thirty-seven dealers were present. G. C. Hirsch, southeastern region sales promotion department man from Atlanta, attended.



**Fulco**  
Refrigerator  
COVERS

Insure deliveries without scratched or broken enamel. Write for prices.

Fulton Bag & Cotton Mills

**Balsam-Wool**  
Sealed Slabs  
EFFICIENT  
PERMANENT  
Completely satisfactory  
Refrigerator Insulation

**WOOD CONVERSION COMPANY**  
Industrial Sales Offices:  
CHICAGO, 360 N. MICHIGAN AVE.  
New York, 3107 Chanin Bldg.  
Detroit, 515 Stephenson Bldg.  
San Francisco, 149 California St.

## District Manager



F. V. ARCHER  
Recently appointed middle western manager for Majestic refrigerators.

## STATE COMMISSIONS BACK FEDERAL BILL ON COURTS

SALEM, Ore.—State commissions engaged in the regulation of public utilities are generally favorable to the proposed Federal bill to restrict the jurisdiction of Federal district courts over utilities, according to a statement made by Charles M. Thomas, Public Utilities Commissioner of Oregon.

The Federal bill, being sponsored by Senator Hiram Johnson of California, would take jurisdiction from the lower Federal courts, where jurisdiction is based solely upon the ground of diversity of citizenship or the repugnance of the commission's order to the Federal Constitution.

Mr. Thomas disclosed that he has circularized the state commissions on the matter, and the replies, he said, have "developed an amazing situation in that it appears to be practically agreed among the commissions that regulation cannot continue unless the proposed legislation is procured."

His statement included excerpts from letters from commissioners in 16 states, all but one of whom expressed agreement with the provisions of the pending bill. New Jersey was the dissenting state.

Agreement with the proposed legislation was expressed by commissioners from the following states: Montana, New Mexico, Oklahoma, Texas, Wyoming, Alabama, Arizona, Georgia, Wisconsin, California, New York, New Hampshire, Nevada, and Maine.

The New Jersey letter said, "I quite agree with you that the situation is becoming intolerable, but I do not agree with the remedy suggested."

## NORGE INCREASE REPORTED BY BALTIMORE SALESMEN

BALTIMORE—An increase in sales has been reported by dealers whose salesmen have been attending the bi-weekly Norge refrigerator sales school recently inaugurated by Columbia Wholesalers, Inc., Norge distributor in this territory.

The school, started primarily to train new retail salesmen for Norge dealers, is now being attended by regular and seasoned salesmen sent in by the dealers, according to L. L. Andrews, president of Columbia Wholesalers, Inc.

Dealer meetings are also being held by the firm every other day. A dinner is served, following which dealers and their sales and service forces hold an open forum to discuss problems of all kinds.

## WILHELM TO MANAGE G. E. STORE IN SEATTLE

SEATTLE—Louie B. Wilhelm has been appointed retail manager for Gordon Prentice, Inc., distributor of General Electric refrigerators in western Washington with headquarters on Fifth Ave., Seattle.

During the past year, Mr. Wilhelm was general manager of the refrigeration division of another Seattle firm. For six years prior to that connection, he was retail and commercial manager of the refrigeration department of a Portland, Ore., firm.

## GENERAL ELECTRIC DEALER TO MOVE STORE

HACKENSACK, N. J.—The Driscoll-Harrison Co., General Electric refrigerator dealer in Hackensack, will move into new quarters early this month. The new store is being built around the shell of the old showroom.

A model kitchen will be built into one of the show windows so that it can be demonstrated from within the store. Frank Driscoll is head of the firm.

## RETAILERS SAY 'FAIR TRADE BILL' UNFAIR

WASHINGTON, D. C.—That the Capper-Kelly "fair trade bill," would fail to produce its desired result, that of eliminating price-cutting, and that it will be unfair to the efficient retailer and to the consumer was the opinion of two retailers who spoke before the Senate Committee on Interstate Commerce Feb. 29.

Testifying against the bill were Benjamin H. Namm of the Namm Store, Brooklyn, N. Y., representing the National Retail Dry Goods Association, and Q. Forrest Walker, economist for R. H. Macy & Co., New York City.

Mr. Namm said the bill would confer upon manufacturers of branded products "an exemption from prevailing law which would enable them to increase their business very greatly." He said that companies producing branded articles would produce unbranded articles of identical quality which could be retailed at lower prices.

Calling the bill unfair to the efficient retailer and the public, Mr. Walker said it would "constitute a hindrance to merchandising." He asserted that national advertisers as such would like to see the bill passed. "The real purpose of the bill," he said, "is masked behind the subtle guise of giving the small retailer a weapon with which to fight the chain stores."

Mr. Namm reported that the organization he represented is "unalterably opposed to price fixing legislation" for the following reasons:

1. It is again the interests of the general public and will raise the cost of living.
2. It will foster monopolies among manufacturers.
3. It will change the retailer from a buyer for the public into a mere selling agent for the manufacturer.
4. It will prevent the proper reduction of retail prices to keep pace with corresponding declines in manufacturing and raw material costs.
5. It will abolish free and open competition among retailers.
6. It will tend to put the efficient store organization on the same basis as the inefficient.
7. It will tend to break down and destroy the initiative of American business.
8. It is a step in the direction of governmental control of business.
9. It was condemned by 83 per cent of the leading economists of the country in a survey conducted in 1931.
10. It will not accomplish its alleged objective, namely, it will not stop predatory price cutting—a practice we all condemn.

## 10 DEALERS EXHIBIT LINES IN FIRST LA CROSSE SHOW

LA CROSSE, Wis., March 7.—La Crosse's first electric refrigeration show, with 10 dealers exhibiting their lines, closed last night after a three-day display at the Hotel Stoddard.

The show was advertised last week by a special section of the *La Crosse Tribune* featuring refrigeration stories and display advertisements.

One of the features of the show was a style show of spring fashions sponsored by department stores, hat, shoe, jewelry, and fur shops.

Electric refrigerators exhibited were: Kelvinator, by Northern States Power Co.; General Electric, shown by the Electric Supply Co.; Frigidaire, by Peshak Sales Co.; Norge and Buckeye, by the Refrigerator Sales Co.

Coldspot, by Sears, Roebuck & Co.; Servel, by the V. Tausche Hardware Co.; Mayflower, shown by the Smith Plumbing Co., and Frank Branson; Crosley, by the Crosley dealer of La Crosse; Copeland, by Clark-Bracken, Inc.

## DAILY, BARD CONDUCT G. E. MASSACHUSETTS MEETING

SPRINGFIELD, Mass.—Walter J. Daily, sales promotion manager of the General Electric refrigeration department, and Malcolm T. Bard of the commercial refrigeration department, were speakers at a meeting of 325 dealers and salesmen in this territory Feb. 22.

D. E. Breckenridge, president of Breckenridge, Inc., distributor of General Electric refrigerators in Connecticut and western Massachusetts, presided at the meeting, at which news of the "War Against Sales Resistance" being waged by "Refrigerania" was heard.

Representation at the meeting comprised 99 per cent of all the dealers in the territory, according to Fred Harvey, district representative in the East.

## REX COLE EQUIPS POLICE BOATS WITH G. E.

NEW YORK CITY—The entire Coast Guard fleet of seven patrol boats is now equipped with General Electric refrigeration, according to the marine department of Rex Cole, Inc., General Electric distributor.

# BUYER'S GUIDE

Manufacturers Specializing in Service  
to the Refrigeration Industry

SPECIAL ADVERTISING RATE (this column only)—\$12.00 per space.  
Minimum Contract for this column—13 insertions in consecutive issues.

All advertisements set in uniform style of type with standard border.  
Half-tone engravings of 100-line screen, either outline or square finish.  
No reverse cuts or heavy black effects. No charge for composition.



SELF-LIFTING PIANO TRUCK CO.  
FINDLAY, OHIO

### X-70 REFRIGERATOR TRUCKS

Save one man on deliveries. Make heavy lifting easy—quick. Eliminate damage to cabinets—floors—walls. Fit all cabinets, with or without legs, or in the crate. Capacity, 1,200 lbs. All steel frame, 4" rubber tired wheels, one truck with top casters and handles for tilting and rolling into delivery truck and on the stairs. Only pads touch cabinet. Built to last a lifetime. Complete set \$38. Rubber tired ball bearing swivel casters on one end, \$5 extra.

### FINDLAY REFRIGERATOR TRUCKS

Light weight trucks—cheaper construction—for all sizes of leg cabinets—padded steel frames—4" rubber wheels. Good trucks for the money. Per set, \$25.

## BARE COMPRESSORS

New 1/6 H. P. Twin 1 1/4" x 1 1/4"

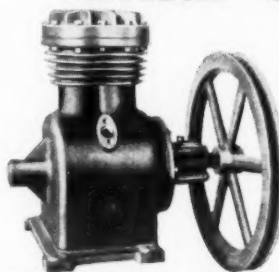
For Sulphur Dioxide or  
Methyl Chloride

Other Sizes 1/6 H. P. to 50 H. P.

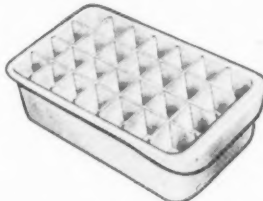
"PARKER" Refrigeration Since 1899

H. C. PARKER, LTD.

2600 Santa Fe Ave. (Factory), Los Angeles, California  
510 Larkin Street, San Francisco, California  
437 Montgomery Street, Jersey City, New Jersey



## A New Dessert-Cube Tray for Your New Models



This Hoosier Dessert Tray can be furnished with grids and separators to form either a 12 or 56 cube double depth cube tray. 5 11/16" wide by 10 1/2" long by 3 1/4" deep—either integral or chrome handle. Write for details and prices on this and other Hoosier Parts.

## HOOSIER PARTS

HOOSIER LAMP & STAMPING CORP., EVANSVILLE, IND.



## Electrical Refrigeration Parts and Supplies

We Carry in Stock:

COMPRESSORS—EVAPORATORS—THERMOSTATS—VALVES AND FITTINGS—THERMOSTATIC AND AUTOMATIC EXPANSION VALVES—COPPER TUBING—CONTROLS—AND MANY OTHER PARTS

Melchior, Armstrong, Dessau Co.

116 Broad Street, Telephone Bowling Green 9-8870, New York, N.Y.

## HANDI-WAY CARRIERS

ONLY \$8.50 BUYS

This Simple, Yet Efficient Carrier Which Pays  
for Itself in One Delivery

The Handi-Way Carrier makes delivery and handling of Refrigerators easy, safe and dependable. Quickly adjustable to 5 sizes. Made strong and padded with heavy material to prevent marring. The Handi-Way Carrier is used by many leading refrigerator dealers, and is the most practical, and lowest priced carrier on the market.

Priced \$8.50 f. o. b. Cars

Gustafson Electric Co., Slayton, Minn.



## Rural Refrigeration Market Improved by Increase in Wholesale Prices

WASHINGTON, D. C.—Distributors and dealers cultivating rural markets for electric refrigerators and milk coolers have been encouraged by the recent report of the Bureau of Agricultural Economics of the Department of Agriculture, showing an increase in wholesale prices of grain, cotton, livestock, feeds, butter, eggs, poultry, and onions for the latter part of February.

Little change was shown during the last two weeks in February in hay prices or wool. Fruits and vegetable markets were irregular and the larger shipments were followed by some declines.

Prices of most grains are somewhat higher than at the beginning of February, the report showed. Domestic cash wheat markets have strengthened with futures, but price changes have not been great.

Demand for corn has continued of unusually small volume at most markets. Oat markets followed largely the change in the corn market but recently there has been an improved demand for it, with accompanying rise in prices.

Foodstuff prices advanced near the middle of February. A price upturn was noted on cattle, and a reduction in hog marketing fitted in well with current trade requirements.

Butter and cheese markets were reported as showing a slight improvement in late February over that of the first half of the month. Poultry markets are firm. Prices of frozen poultry are slightly irregular to firm.

Egg markets have shown a rise since the middle of February.

## BUREAU CAMPAIGN SUBJECT OF NEW ORLEANS MEETING

NEW ORLEANS—"The N. E. L. A. Plan to Cooperate in the Selling of Another Million Electric Refrigerators in 1932" was the topic of a speech by Dr. G. W. Allison, field representative of the Electric Refrigeration Bureau, before representatives of the 10 electric refrigerator distributors of New Orleans, Feb. 29.



# BUYER'S GUIDE

Manufacturers Specializing in Service  
to the Refrigeration Industry

SPECIAL ADVERTISING RATE (this column only)—\$12.00 per space.  
Minimum Contract for this column—13 insertions in consecutive issues.  
All advertisements set in uniform style of type with standard border.  
Half-tone engravings of 100-line screen, either outline or square finish.  
No reverse cuts or heavy black effects. No charge for composition.

## CABINETS

Lacquered Steel and Porcelain Exteriors

Sizes stocked from 3½ to 8 cu. ft. net capacity, also  
built to specifications for unit installation.  
Cabinets for Multiple-jobs

ILLINOIS REFRIGERATOR CO., Morrison, Ill.

ALL REFRIGERATORS LOOK ALIKE TO

## AMIGO

REFRIGERATOR CLEANER

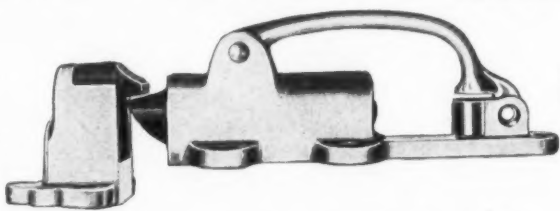
A million owners waiting for it. Polishes as it cleans—  
Lacquer—Porcelain—Hardware—Shelves—Freezing Trays  
Distributors and Dealers write for sample

Amigo Products Co., 1511 S. Vermont Ave., Los Angeles, Cal.

## KASON K-54A REFRIGERATOR LATCH

Pat. Des.  
No. 81737  
Other Patents  
Pending

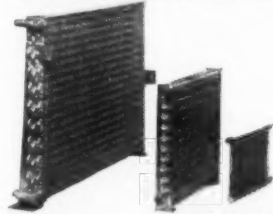
1932  
MODEL



Send for  
Samples  
on  
Approval

Kason Hardware Corp., 61-67 Navy St., Brooklyn, N. Y.

## FLINTLOCK CONDENSERS



FOR EXTRA CAPACITY  
WITH GREATER EFFICIENCY

Used as standard equipment by  
over 65% of the leading electric  
refrigerator manufacturers.

FLINTLOCK CORPORATION

4461 WEST JEFFERSON

DETROIT, MICHIGAN

## EASY-WAY CARRIERS

Automatic Lift

Will handle any size refrigerator—saves labor—saves time—  
saves damaged cabinets and customers' premises.  
Order now for delivery later—don't wait till the season is  
on. By ordering now we will ship the date you specify.  
Sold on MONEY BACK GUARANTEE. Return in ten days  
if not as represented.

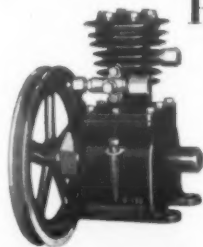
Price only \$26.50

Also Factory Representatives for SLUSSER (patented)  
COIN METERS. 25c 24-hour meter with Westinghouse  
guaranteed motor for refrigerator sales.

\$13.50

R. & R. Appliance Co., Inc., 315 N. Main St., Findlay, O.

## Rugged Resistance To Wear



Brunner High Sides and Compressors bring to manufacturers and  
assemblers of electric refrigeration,  
rugged, dependable units that  
build good will solely on their  
length of trouble-free service. Get  
the complete Brunner story. Brunner  
Manufacturing Co., Utica, N. Y.

HIGH SIDES and COMPRESSORS by BRUNNER

## SHOW YOUR REFRIGERATORS "IN ACTION" USE OUR FOOD REPRODUCTIONS

Demonstrate Capacity. Attract Attention

Introductory Set. Specially Priced

\$10.00 Net

Send for Catalogue

Reproductions Company, 210 South St., Boston, Mass.

## REQUESTS FOR INFORMATION

Readers who can be of assistance  
in furnishing correct answers to in-  
quiries, or who can supply additional  
information, are invited to address  
Electric Refrigeration News, mention-  
ing query number.

Answers to most inquiries for statisti-  
cal information and sources of supply  
will be furnished by the 1932 Refrigeration  
Directory and Market Data Book  
to be issued in March. Price \$2.00.

### Rubber Ice Cube Trays

Query No. 683—"Where can we buy  
rubber ice cube trays?"

Answer—Inland Mfg. Co., Dayton,  
Ohio.

### Ranee Mfg. Co.

Query No. 686—"Please advise the ad-  
dress of the Ranee Mfg. Co."

### Laboratory Tests

Query No. 687—"Where can we obtain  
a laboratory test of an electric refrig-  
erator?"

Answer—George B. Bright Co., 2615  
Twelfth St., Detroit; and the Electrical  
Testing Laboratories, 80th and East End  
Ave., New York City.

### Sulphur Dioxide Units

Query No. 688—"What equipment can  
be obtained to dry hermetically sealed  
sulphur dioxide units in mass produc-  
tion? What equipment is available to  
check their moisture content?"

### Books on Refrigeration

Query No. 689—"We would like to  
know if there is a hand book published  
on electric refrigeration."

Answer—"Household Refrigeration,"  
H. B. Hull; "Practical Refrigeration En-  
gineer's Pocket Book," John Starr;  
"Principles of Mechanical Refrigeration,"  
H. J. MacIntire; "Powers Practical  
Refrigeration," L. Morrison; "Ele-  
mentary Mechanical Refrigeration," F.  
E. Mathews. The first two published by  
Nickerson & Collins, 435 N. Waller St.,  
Chicago, and the others by the McGraw-  
Hill Book Co., 330 W. 42nd St., New  
York City.

### Meat Racks, Metal Shelving

Query No. 690—"Can you furnish us  
with the names of manufacturers mak-  
ing meat racks and open metal shelving  
to be used in large electrically cooled  
walk-in boxes?"

Answer—Kason Hardware Corp., 61  
Navy St., Brooklyn, N. Y.; Union Steel  
Products Co., Albion, Mich.; United  
Steel & Wire Co., Battle Creek, Mich.

### Lens Block Chillers

Query No. 691—"Please advise me  
what concerns manufacture lens block  
chillers."

Answer—Electrolux, Inc., 51 E. 42nd  
St., New York City; Copeland Products,  
Inc., Mt. Clemens, Mich.

### "Ilundum"

Query No. 692—"Can you give us the  
address of the manufacturer of the  
ceramic filtering material known as  
'Ilundum'?"

### Mohawk Refrigerators

Query No. 693—"We would like to  
know the name and address of the firm  
producing the Mohawk electric refrig-  
erator."

Answer—All-American Mohawk Corp.,  
Falls Blvd., North Tonawanda, N. Y.

### Low-priced Refrigerators

Query No. 694—"We write to ask if  
you will give us the names of two or  
three manufacturers that are placing a  
low-priced electric refrigerator on the  
market this year."

Answer—The "Buckeye," manufac-  
tured by Domestic Industries, Inc.,  
Mansfield, Ohio.

### Cooke Seal Ring Co.

Query No. 695—"Would you kindly  
give us the new name and address of  
the Cooke Seal Ring Co. of Chicago?"

Answer—Rotary Seal Co., 809 W. Mad-  
ison Ave., Chicago.

### Fan Manufacturers

Query No. 696—"Possibly you can give  
me the names of several manufacturers  
of fans."

Answer—Cope-Swift Corp., 247 Mc-  
Dougall Ave., Detroit; Crosby Co., 183  
Pratt St., Buffalo, N. Y.; Steel & Tubes,  
Inc., Superior Division, Elyria, Ohio.

### Evaporator, Motor Manufacturers

Query No. 697—"Will you be good  
enough to send us a list of manufac-  
turers of evaporators and electric re-  
frigeration motors?"

Answer—For evaporators, Fedders  
Mfg. Co., 57 Tonawanda St., Buffalo,  
N. Y.; Detroit Lubricator Co., 5842  
Trumbull Ave., Detroit; Mullins Mfg.  
Co., Salem, Ohio. For motors, Leland  
Electric Co., Dayton, Ohio; Wagner  
Electric Corp., 6400 Plymouth Ave., St.  
Louis; General Electric Co., Schenec-  
tady, N. Y.; Delco Products Co., Day-

ton, Ohio; Century Electric Co., St.  
Louis, Mo.

### Milk Coolers

Query No. 698—"We are interested in  
wholesaling a line of milk coolers. Can  
you put us in touch with an independ-  
ent manufacturer of these units? By  
independent, we mean one which is not  
manufacturing household refrigerators."

Answer—Chester Dairy Supply Co.,  
Ninth and Hyatt Sts., Chester, Pa.;  
Dairy Refrigeration Co. (complete milk  
coolers), 911 S. 72nd St., Milwaukee,  
Wis.; Domestic Utilities (complete milk  
coolers), Garrison Blvd. and Western  
Md. R. R., Baltimore, Md.; Esco Cab-  
inet Co. (complete milk coolers), 104 E.  
Market St., West Chester, Pa.; Manning  
Mfg. Co., Rutland, Vt.; Nagle Sheet  
Metal Works (cabinets only), Herkimer,  
N. Y.; A. H. Reid Creamery & Dairy  
Supply Co. (refrigerators for mechanical re-  
frigeration), 69th and Haverford Sts.,  
Philadelphia; Valerius Corp. (cabinets  
only), Jefferson, Wis.

### Comparisons of Specifications

Query No. 699—"I am writing to see  
if you can furnish me a comparison of  
all popular refrigerators manufactured  
today, or refrigerators manufactured by  
members of the N.E.M.A."

Answer—ELECTRIC REFRIGERATION NEWS  
is now planning to collect such data in  
the near future for publication.

### Compressors and Coils

Query No. 700—"I am considering the  
manufacture of domestic refrigeration  
in Canada and have been advised to  
write you for information as to where  
the mechanical equipment may be pur-  
chased."

Answer—For compressors, Universal  
Cooler Corp., 7424 Melville Ave., De-  
troit; Deissler Machine Co., 31 N. Mer-  
cer St., Greenville, Pa.; Brunner Mfg.  
Co., 1821 Broad St., Utica, N. Y.; Mer-  
chant & Evans, 2035 Washington Ave.,  
Philadelphia, Pa.; Illinois Moulding Co.,  
2411 W. 23rd St., Chicago. For domes-  
tic cooling coils, Fedders Mfg. Co., 57  
Tonawanda St., Buffalo; Detroit Lubri-  
cator Co., 5842 Trumbull Ave., Detroit.

### Champion Ice Machine Parts

Query No. 701—"Can you inform me  
where parts for the Champion Ice Ma-  
chine can be obtained?"

### Compound Gauges

Query No. 702—"Please let us know  
where we can procure accurate com-  
pound gauges registering to 30 in. vac-  
uum and 300 lbs. pressure."

Answer—Bristol Co., Waterbury,  
Conn.; C. J. Tagliabue Mfg. Co., Park  
and Nostrand Aves., Brooklyn, N. Y.;  
Foxboro Co., Inc., Naponset Ave., Fox-  
boro, Mass.

## NEW YORK DEALER NAMED BY WESTINGHOUSE

MT. VERNON, N. Y.—The Werco  
Co., Inc., with offices at 11 Gramatan  
Ave., this city, and at 353 North Ave.,  
New Rochelle, has just been appointed  
Westinghouse electric refrigerator dealer  
to cover the eastern half of West-  
chester county.

## THE CONDENSER

PAYMENT IN ADVANCE (except as  
specified below) is required for adver-  
tising in this column. The following  
SPECIAL RATES apply: Positions  
Wanted—fifty words or less, one inser-  
tion \$2.00, additional words four cents  
each. Three insertions \$5.00, additional  
words ten cents each. All other classi-  
fications—fifty words or less, one in-  
sertion \$3.00, additional words six  
cents each. Three insertions \$8.00, ad-  
ditional words sixteen cents each.

Companies having accounts with the  
publisher or satisfactory credit rating  
may place advertising on open account  
at fifty cents per line.

REPLIES to advertisements with box  
numbers should be addressed to the  
box number in care of Electric Refrig-  
eration News, 550 Macabees Building,  
Detroit, Mich.

## POSITIONS WANTED

SERVICE or installation man thoroughly  
familiar with all makes of commercial and  
domestic refrigerators. Thorough technical  
training, practical experience, also able to  
do all kinds of electrical work, good educa-  
tion, clean character, single and can travel  
anywhere. Box 426.

AVAILABLE—Executive Engineer—15 years'  
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in design, laboratory and manufacturing of  
household and commercial units. Capable of  
creating improved refrigeration equipment  
and automatic controlling devices. Familiar  
with all service and installation problems.  
College graduate. References. Box 424.

PRODUCT MANAGER. Ammonia, SO<sub>2</sub>, and  
CO<sub>2</sub> experience. Recently two years General  
Electric factory product department. One  
and one-half years Product Manager. Now  
with General Electric distributor, desires  
change, location immaterial. Box 427.



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Institute, Dept. 932, 404 No. Wells St., Chicago, Ill.

## LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other mate-  
rials recently issued.

Manufacturers are requested to send  
copies of new trade literature to  
Electric Refrigeration News.

### Electrochef Ranges

Photographs of six Electrochef models  
and two "firebowls," related appliances,  
are shown in a mailing piece just put  
out by Electromaster, Inc. The models  
include two double-oven models, two  
single oven models (one with the oven  
at the side, the other with the oven  
below the cooking table); a separate  
oven, and a separate cooking table.

Complete specifications accompany the  
photographs, along with descriptions of  
standard equipment on the models.

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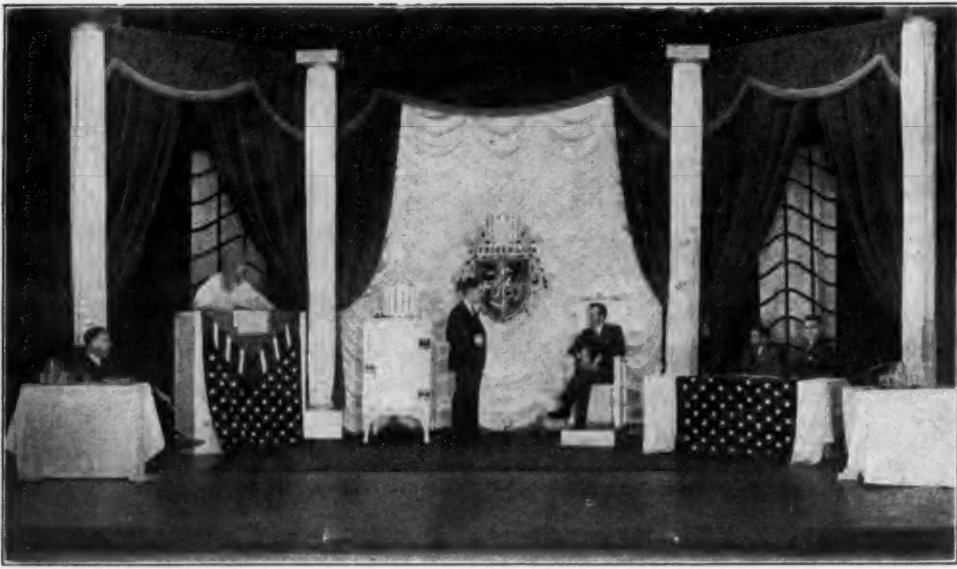
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## General Electric, Frigidaire Conduct Field Conventions



W. E. Hart, C. O. Hamlin, B. F. Slye, J. M. Walker, Malcolm Bard, and A. O. Anderson (left to right) present General Electric's play, "The General Electric Sales Organization versus the Great Army of the Uninformed."



More than 700 dealers attended the spring sales meeting of Gentsch & Thompson, Inc., General Electric distributor at Boston. Here is a group inspecting a model store which was erected in the Statler hotel.



The New England Frigidaire barnstormers. Left to right: R. W. Pocock, Joseph Nahstoll, R. B. Ambrose, J. J. Nance, chief; W. W. Hall, and C. E. Allen.

### Cheer Leaders



Frigidaire's "Big Four" convention leaders leave Dayton for four sections of the country. Left to right: J. J. Nance, Lowell McCutcheon, George S. Jones, Jr., and Frank R. Pierce.



F. R. Pierce and his southern convention leaders. Left to right: L. W. Curl, R. D. Van Dyke, Ellsworth Gilbert, Mr. Pierce, H. H. Schnabel, and V. C. Smith.



Western Frigidaire distributors and dealers will hear the message of J. E. Haynes, F. F. Cain, F. W. Beecher, George S. Jones, Jr., leader; D. T. Hayward, and G. W. Shane, left to right.



Above is the Frigidaire central and Great Lakes states convention troupe of J. W. Thiele, Lowell McCutcheon, John Martin, F. C. Lyons, R. L. Winegarner, and C. E. Quigley.



Morley Brothers, Gibson distributor in Saginaw, Mich, took these salesmen to the Gibson plant for the annual dealer convention.



LOUIS R. SWENSON  
Appointed western district manager for Electrochef ranges.



Dr. George W. Allison addressed a banquet of the Electric Refrigeration Bureau of New Orleans on Feb. 29.



## ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office

The business newspaper of the refrigeration industry

ISSUED EVERY WEEK  
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DETROIT, MICHIGAN, MARCH 9, 1932

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THREE DOLLARS PER YEAR

### SPARTON SPEEDS PRODUCTION WITH NEW MACHINERY

#### Prepares Separate Plant For Refrigerator Manufacture

(See Pictures on Page 8)

By John T. Schaefer

JACKSON, Mich.—The manufacture of Sparton electric refrigerators is rapidly being centralized in Plant No. 4 of the Sparks-Withington Co. where modern production equipment is being installed under the direction of Burr Patch, superintendent of the refrigeration plant, and C. J. Kayko, chief chemical and electrical engineer.

Line production was started a week and a half ago on condensing units, with about 35 going through the plant daily. This week schedules are being increased toward the full capacity of 250 complete refrigerators per day.

About four miles from here, near Michigan Center, Sparton's Plant No. 4 in which another manufacturer once built the "White Frost" ice refrigerator, is a long, single-story, brick factory building, well lighted and arranged for refrigerator manufacture. It is 620 ft. in length and 65 ft. wide without the side wings which provide an additional 50 per cent of floor space.

The main line of the Michigan Central railroad from Chicago to Detroit passes right by the plant, and furnishes freight sidings.

When the Sparton executives decided to go into refrigeration, plans were made to move the manufacture of other products to the factories in Jackson, Mich., and make Plant No. 4 the refrigeration plant. Since then the radio transformer division and other departments have been removed to another plant, and various new manufacturing and testing machines installed for refrigeration work.

An overhead conveyor system has been established to conduct the various component refrigerator parts through (Concluded on Page 3, Column 3)

### BAKER'S ICELECT LINE INCLUDES 6 MACHINES

OMAHA—Six condensing units powered by motors ranging from 1/4- to 1 1/2-hp. comprise the 1932 line of Icelect commercial refrigeration recently announced by Baker Ice Machine Co., Inc.

Five of the units are equipped with air cooled condensers; the other has a water cooled condenser.

Model A-1-M has a 1/4-hp. motor with a speed of 270 r.p.m. Equipped with air-cooled condenser and automatic control, its refrigerating capacity is equivalent to 257 lbs. ice melting effect per 24 hours. Its dimensions are 17x24x17 in.

Model A-3-M has a 3/4-hp. motor with a speed of 470 r.p.m. Its refrigerating capacity is equivalent to 600 lbs. ice melting effect per 24 hours, and its dimensions are 20x31x22 in.

Model B-4-M is equipped with a 3/4-hp. motor with a speed of 310 r.p.m., and has refrigerating capacity equivalent to 938 lbs. ice melting effect per 24 hours.

Model B-5-M, with a 1-hp. motor and a speed of 470 r.p.m., has a 1160 lbs. ice melting capacity per 24 hrs., and dimensions of 20x31x25 in.

Model C-6-M has a speed of 240 r.p.m. and a motor of 1 1/2-hp. Its refrigerating capacity is equivalent to 1,600 lbs. ice melting per 24 hours, and its dimensions are 23x40x25 in.

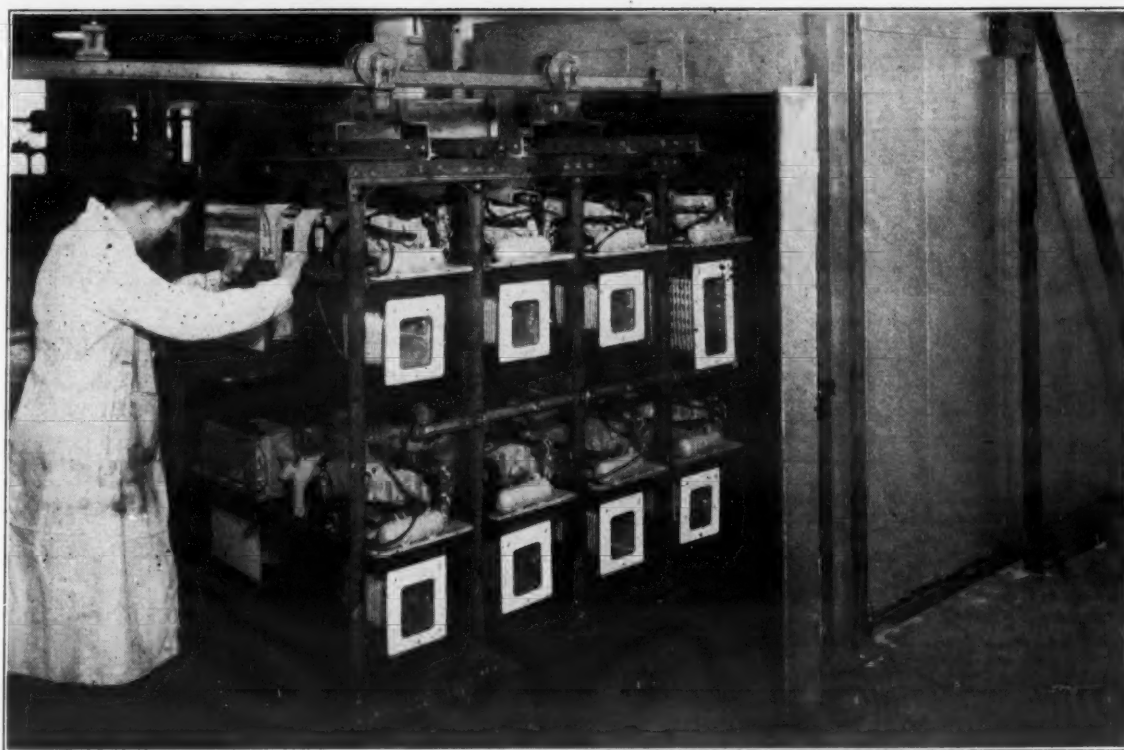
Model C-6-MW is exactly like model C-6-M except that it is equipped with water-cooled condenser instead of air-cooled condenser. This makes its shipping weight 485 lbs. as compared with 476 lbs., the weight of model C-6-M. Otherwise the two models are alike.

#### MINNESOTA FIRM MARKETS REFRIGERATOR CARRIER

SLAYTON, Minn.—An adjustable refrigerator carrier known as the Handi-Way is being marketed by the Gustafson Electric Co. of this city.

The carrier, priced at \$7.50, is quickly adjustable to five sizes, and is padded with heavy material to prevent marring.

### Removing Moisture from Sparton Units



Sixteen Sparton condensing units going into a dehydrating oven in Sparks-Withington refrigeration plant near Michigan Center, Mich. A 12-hour treatment at 220° F. removes moisture from the units.

### DOMESTIC HUMIDIFIER DESIGNED BY CARRIER

NEWARK—A domestic humidifying device has just been designed by the Carrier Research Laboratories, of this city, for air treatment in the winter. Described as a home humidifier, it operates in conjunction with the ordinary radiator heating system. No duct work is required.

Using the same supply and return pipes already available for the present heating system, the cabinet is installed as a radiator. Small water supply and drain lines are added for humidification. One cabinet will supply adequate humidification for an average small house. The heat from the humidifier supplements but is not designed to replace the existing radiators.

There are two adaptations of the new humidifying unit. The "upstairs model" is in cabinet form to fit into the place of the ordinary radiator. It requires a floor space, 26 in. long, by 7 in. wide, and stands 25 in. high, or slightly lower than the average dressing table.

Air from the room is drawn in through a grill in the lower part of the cabinet and passes over a heating coil connected to the house heating system.

This heated air then moves upward (Concluded on Page 2, Column 4)

### WAGNER ORGANIZES FIRM FOR CANADIAN PRODUCTION

TORONTO, Can.—Announcement has just been made of the formation of the Wagner Electric Mfg. Co., Ltd., with head offices and factory at 183 George St., in this city, and offices in Montreal and Winnipeg.

This new Canadian company has acquired exclusive manufacturing and sales rights for the products of the Wagner Electric Corp. of St. Louis, with the exception of their automotive equipment.

Initial manufacturing activities consist of complete manufacture of fractional horsepower, repulsion start, induction, single phase motors, in the sizes and types suitable for refrigeration service. Within the next month all sizes up to and including 1-3 hp. will be in production at the Canadian factory, it is announced.

#### AIR CONDITIONING MEETINGS SCHEDULED NEXT WEEK

CLEVELAND—Air conditioning will be the center of interest for students and others, March 17 to 19, in the conference on that subject at the Case School of Applied Science here. The program was announced in the last Engineering Section of ELECTRIC REFRIGERATION NEWS.

### Gibson Distributors Attend School

(See Picture on Page 8)

GREENVILLE, Mich.—Ten Gibson distributing organizations were represented at a service school here ending the week of Feb. 27, according to Elmer Born, manager of the service department, who had charge of the school.

Delegates to the service school included: T. Andreen, Winne Sales Co., Minneapolis; Pete Tomforde and Steve Mozinski, Morley Bros., Saginaw, Mich.; W. W. Bennett, J. C. Latner, D. Gail Callander, and Eddie Mitchell, Columbus Distributing Co., Columbus, Ohio. George Schnick, L. V. Whitney, Inc., (Concluded on Page 3, Column 4)

#### Detroit Representative



W. C. DEVER

### VIRGINIA SMELTING NAMES DETROIT REPRESENTATIVE

DETROIT—The Virginia Smelting Co., manufacturer of sulphur dioxide for electric refrigerators, has just established special representation here in Detroit with the appointment of W. C. Dever as the local factory representative.

Mr. Dever, who has previously been associated with Kelvinator Corp. and other manufacturers of electric refrigerators, is now operating from a Virginia Smelting office at 7338 Woodward Ave. here.

The company has also arranged to maintain a stock of the refrigerant in its own name at the Central Detroit Warehouse Co., Fort and 10th Sts.

### NEW MAJESTICS HAVE 2 CONDENSING UNITS

CHICAGO—Two new twin-unit Majestic refrigerators, 10- and 12-cu. ft. models, have been introduced this year by the Grigsby-Grunow Co. Both are double door cabinets, with a cooling unit accessible through each door.

In the twin-unit system, two standard Majestic units are placed under a master-control system. When the usual thermostatic action device starts the machine, one motor starts and then the other—this being done so that there is no greater draw of starting current at any time than is necessary to start one Majestic unit.

When the box reaches a proper temperature, both motors are cut off at once. When defrosting is desired, the cold regulator knob cuts off both motors. To re-start the units, a push on the button above the cold regular knob starts both motors, one at a time.

In action the two units divide the work of pulling heat from the food compartment. Majestic officials claim that, in all but the very warmest weather, one Majestic unit, by running more hours, can refrigerate the box properly. The double control insures the operation of one unit in case the other should fail. There is no special wiring required (Concluded on Page 2, Column 1)

### ICE CREAM INSTALLATION SERVED BY B-K MACHINES

GRAND RAPIDS, Mich.—Boot & Co., Brunswick-Kroeschell distributor and installation engineers, have just placed an ice cream manufacturing system in the Paul Hines ice cream shop, here.

The equipment includes a 40-qt. direct expansion Emery-Thompson freezer in the front of the store, operated in connection with an 8x10-ft. hardening room.

Coils in the hardening room are of the semi-flooded type, which, together with the ice cream freezer, is served by a 7-ton Brunswick-Kroeschell refrigerating machine, Arthur Boot states.

A 120-gal. cone cabinet and a 12-ft. low-temperature display case, installed in the front part of the store, are refrigerated by a 1-hp. B-K Jr. condensing unit.

#### BONNEY RATCHET WRENCH DESIGNED FOR VALVES

ALLENTOWN, Pa.—A new ratchet wrench for adjusting valves on electric refrigerators has been designed by Bonney Forge and Tool Works of this city. Known as the T28A, the new wrench has a 1/2-in. square opening, and is furnished without lug. Its length overall is 6 1/2 in., and it is made of chrome-vanadium steel.

### REVERSED CYCLE HEATS BUILDING IN LOS ANGELES

#### Year 'Round Treatment Of Air Done in One System

LOS ANGELES—Refrigerating equipment designed to provide both cooling and heating by means of the reversed refrigeration cycle has been installed in the new "all-electric" southern California Edison Bldg., here.

To furnish an equivalent of six changes of air per hour and to provide the force for conditioning the 193,000 c.f.m. of air supplied to this electrically cooled and heated office building, 480 tons of refrigeration are required.

The structure has a content of 3,778,000 cu. ft. and a gross floor area of 269,000 sq. ft. It is 13 stories high. The entire building is electrically heated and all offices are supplied with conditioned air.

The refrigerating equipment is composed of four Sturtevant 120-ton duplex rotary compressors, each direct connected to 200-hp. synchronous motors operating at 1,000 r.p.m. Methyl chloride is the refrigerant used.

Working under normal conditions for cooling, with 25-lb. pressure, 36° F. suction, and a head pressure of 85-lb. gauge, each of the 120-ton compressors will require not more than 155-hp., according to H. L. Doolittle, chief designing engineer of the system.

The ventilating and air conditioning equipment in the building was installed by the Cooling and Air Conditioning Corp. of New York under the supervision of Mr. Doolittle.

The use of methyl chloride as a refrigerant, he explains, requires probably one-fourth more power than would be required with ammonia. Despite this fact it was decided that the lower operating pressure, the rotary compressor, and the entire absence of ammonia (Concluded on Page 5, Column 1)

### RACINE FIRM OFFERS 6 NEW UNIT COOLERS

RACINE, Wis.—By adapting its unit heaters to air cooling work, the Young Radiator Co. of this city, has developed a line of six unit coolers for air conditioning installations, according to F. H. Ine, sales manager.

The coolers are of the rectangular type with four or six blade propeller fans for forcing the air through the sections of finned tubing into a room. They are arranged for wall or ceiling mounting.

Fins are of aluminum alloy, integrally cast with the tubing; cooling sections are fastened together by stud bolts, according to Mr. Ine.

Model 2185, the smallest cooler, will transfer 49,000 B.t.u. of heat per hour, and has five cooling sections. The air is circulated by a four-blade, 14-in. fan, driven at 1750 r.p.m. by a 1-20-hp. motor. Cooler dimensions are 5 in. deep, by 14 in. long, by 13 in. wide.

Model 3187 will handle 56,000 B.t.u. per hour, with five cooling sections. It is also provided with a four-blade, 14-in. fan, driven at 1750 r.p.m. by a 1-20-hp. motor. Its dimensions are 7 in. deep, 14 in. long, and 13 in. wide.

Eight sections are included in model 5125 which has a capacity of 115,000 B.t.u. per hour. This cooler has a four-blade, 19-in. fan, revolves at a speed of 1150 r.p.m. by a 1-6-hp. motor. Dimensions of this model are 5 in. deep, 20 in. long, and 20 1/4 in. wide.

Next in line of size is model 6127 which is rated at 130,000 B.t.u. per hour, and has eight sections. This unit again (Concluded on Page 2, Column 2)

#### BEN FRANKLIN SCHOOL ADDS REFRIGERATION COURSE

PHILADELPHIA—A course in electric refrigeration has been included in the curriculum of the Ben Franklin School of Electricity, here, according to William Hirst of the school. The course includes estimation, installation, and service of the various refrigerators.



## NEW 10-, 12-FT. MAJESTICS HAVE 2 CONDENSING UNITS

(Concluded from Page 1, Column 4)  
for a 710 or 712. Both models may be plugged in at any base plug.

Both models have Elasto exteriors and porcelain interiors. An interior light operates simultaneously with the opening of the door.

One of the trays in each box is a McCord "Easy Out." Hardware is of chromium aluminum alloy.

Model 710 has a net food storage capacity of 10 cu. ft. and a shelf area of 18.8 sq. ft. It stands 59½ in. high, 44 in. wide, and 27½ in. deep. It has six ice cube trays which will freeze 15 lbs. of ice at one freezing.

Model 712 has a net food storage capacity of 12 cu. ft. and a shelf area of 23.2 sq. ft. It stands 65½ in. high, 44 in. wide, and 27½ in. deep.

## Young Radiator Co. Designs Unit Coolers

(Concluded from Page 1, Column 5)

has a four-blade, 19-in. fan, driven by a 1-6-hp. motor running at 1150 r.p.m. It is 7 in. deep, 20 in. long, and 20½ in. wide.

Model 10125 is designed to handle 220,000 B.t.u. of heat per hour, with 11 sections. It has a six-blade, 26-in. fan, driven at 1150 r.p.m. by a ½-hp. motor. Dimensions are 5 in. deep, 28 in. long, and 28½ in. wide.

The largest cooler is sized to handle 270,000 B.t.u. per hour, and includes 11 sections. The ½-hp. three-phase motor drives the six-blade, 26-in. fan at a speed of 1150 r.p.m. Its dimensions are 7 in. deep, 28 in. long, and 28½ in. wide.

## EFFICIENCY IMPROVED BY AIR CONDITIONING

NEW YORK CITY—Human beings can do four times as much work in a temperature of 100° F. when the relative humidity is 30 per cent than when the latter is 100 per cent, and can perform at maximum efficiency only between the temperature limits of 40° and 70° F., according to a report just issued by the Policyholders Service Bureau of the Metropolitan Life Insurance Co., entitled "Air Conditions and the Comfort of Workers."

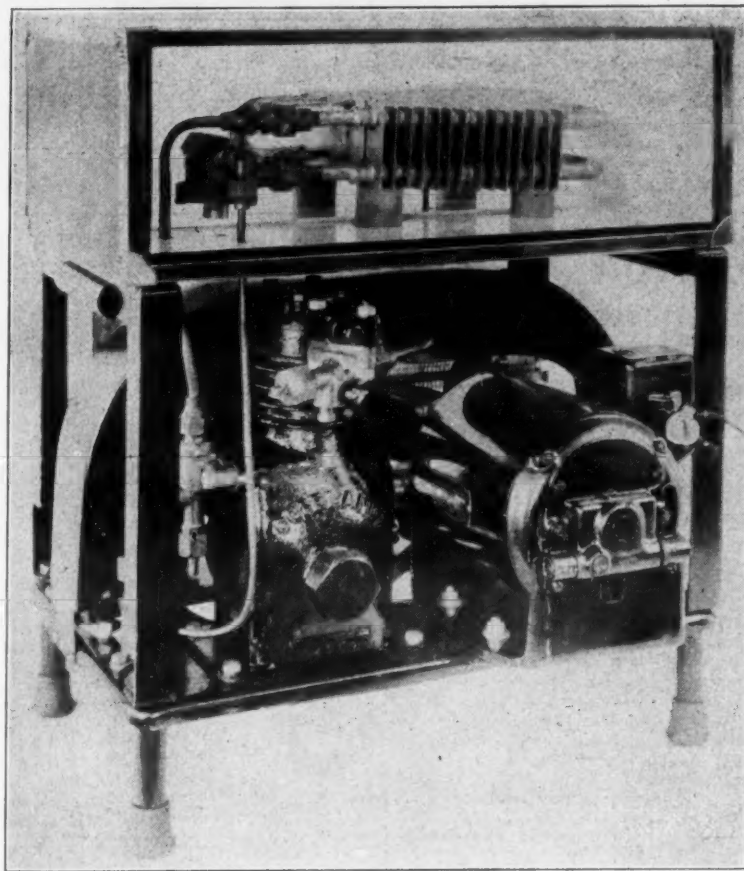
The report describes simple methods of measuring humidity and air motion, and explains how air is "conditioned" for comfort and efficiency. According to the report, extensive researches have been made "on human subjects exposed to unusual temperatures and humidities under accurately controlled environmental conditions."

These have shown how and to what extent man loses his physiological efficiency beyond certain temperature limits. The experiments and the limits established are then discussed in some detail. Methods of removing excessive heat and moisture, and of cleansing the air are also described briefly.

This is the season, according to health authorities, when proper ventilation is especially important because of the increased danger of colds and similar ailments. The Metropolitan report offers scientific knowledge of air and its effects on human beings as a timely help in preventing some of the sickness and decreased efficiency that become prevalent at this time of the year.

Copies of "Air Conditions and the Comfort of Workers" may be had by addressing the Policyholders Service Bureau of the Metropolitan Life Insurance Co., 1 Madison Ave., New York City.

## Midget Model for Salesmen



A midget sample of a Copeland refrigerator, built of the same materials as a regular Copeland machine, is now being furnished to Copeland salesmen for demonstration purposes. The midget is carried in the back of a salesman's car, and by plugging in to a prospect's light socket can produce refrigeration within a few minutes.

# CELLANITE

## for BREAKER STRIP INSULATION

An odorless and odor repelling thermal and electrical sheet insulating material. Practically unaffected by moisture, oil, chemicals, and temperature extremes. Will not easily warp, swell, soften or deteriorate. CELLANITE remains accurate throughout long service and offers permanent insulation efficiency under all conditions.

CONTINENTAL-DIAMOND FIBRE COMPANY  
NEWARK DELAWARE

# COPPER

# HYDROGEN...

# ELECTRICALLY

# WELDED

COPPER Hydrogen Electric Welding opens the way to many short cuts in manufacturing operations. For by this process many welds can be completed in the one operation.

The separate parts to be welded are first assembled, the welding copper applied, either in the form of paste, powder or copper wire over the joints, and the assembly sent through a hydrogen-charged electric furnace.

By means of capillary attraction and the natural affinity of steel and copper, each for the other,

the copper enters the joints and penetrates along the grain boundaries of the steel forming a weld of great strength, gas tightness and with a neat trim appearance.

The Bundy Tubing Company is the only source in the world where this type of general commercial welding can be obtained. Write us giving details of your product and we will be glad to go into the matter with you.

BUNDY TUBING COMPANY  
4815 BELLEVUE AVE., DETROIT, MICH., U. S. A.

BUNDYWELD TUBING

## Carrier Engineering Introduces Humidifier For Residential Installations

(Concluded from Page 1, Column 2)

into the upper portion of the cabinet where it is humidified by contact with a spray from a specially designed nozzle emitting a needle-like stream of water and causing a vapor mist through which the air passes.

The air in passing through this mist takes up moisture, thus increasing its relative humidity. The air, now humidified, then passes through a cleansing filter and thence out into the room through another grill.

No fans are involved in the process, as it operates through gravity. Cold air, being heavier, naturally falls. As it passes through the grill in the bottom of the cabinet and becomes heated, its tendency is to rise. The heated air passes out through the upper opening.

The basement model is a suspended unit designed to be hung under the flooring, with only a grill showing in the floor. The grill opening is 26 in. long by 12 in. wide, and is divided into two sections, the air being drawn through one section and out the other.

This unit may be operated on the gravity principle similar to the upstairs model, or by forced circulation, using fans to secure a greater diffusion of the humidified air.

With forced circulation, the lower portion of the suspended unit houses a

draws the air down and circulates it over the heating coils. It then travels upward through the water spray and filter and out through the other half of the grill. The filter can be taken out and cleaned when necessary by lifting up the grill, or with the cabinet model, by removing the top cover, Carrier engineers explain.

Approximately 2½ gallons of water per hour are used by either model. Of this amount, about ¾-gallon per hour is actually evaporated. Humidity regulation is obtained by controlling the water supply through a hand valve, or automatically by a hygrostat.

On a normal winter day when the outside temperature is about 25° F., the relative humidity of the air inside the average home is about 16 per cent, which Carrier engineers declare is less comfort than obtained on the Sahara desert.

## NEW SLIP-RING MOTORS INTRODUCED BY CENTURY

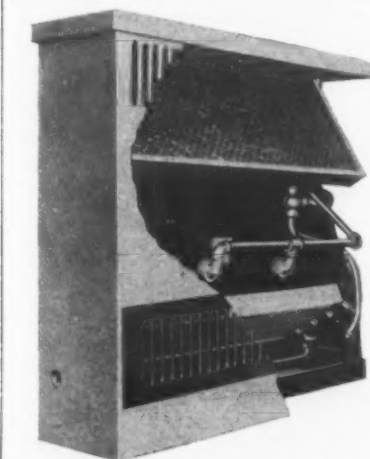
ST. LOUIS—Century Electric Co. has just extended its line of slip-ring motors from 20-hp. to 250-hp., operating at 1,800 r.p.m. on 60 cycles of alternating current, according to an announcement. These additions to the line provide a range of slip-ring motors from ¼ to 250-hp.

Also introduced by the Century organization are the new type R direct current vertical motors in sizes from 1 to 150-hp. These vertical motors are of the ball-bearing, grease-lubricated type, for mounting either on a ring base or directly on the driven equipment.

The top bearing bracket of the vertical motors is protected with a cover which may be furnished in either screen or solid material, according to Century engineers.

## OUR ERROR

The refrigerated truck control described in connection with the description of the refrigeration system of Safety Refrigeration, Inc., in the Engineering Section of Dec. 30, 1931, was not made by the Cole Electric Products Co., as stated, Horace M. Wigney, general manager of Safety Refrigeration, Inc., points out. Only the steel enclosure for the control device was made by the Cole organization, the control proper being built in Safety Refrigeration's own plant, he explains.



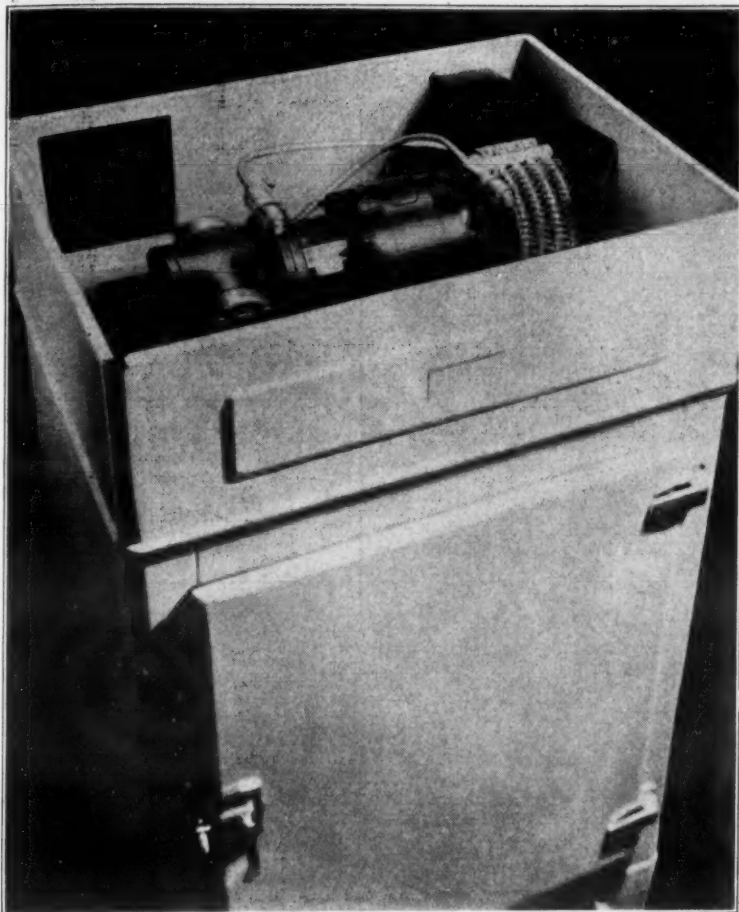
New Carrier humidifier for homes.

motor which operates two fans, each fan having a capacity of 125 cu. ft. per minute.

The operation of the fans and blowers

Every Cylinder Analyzed **SULPHUR DIOXIDE**  
Absolutely Pure for DIRECT CHARGING  
Bone Dry  
Also Ton Drums  
Tank Cars  
ANSUL CHEMICAL COMPANY  
MARINETTE WISCONSIN



**Bird's-eye of a Sturtevant**

View of the Sturtevant unit in a new White Mountain refrigerator.

**A. C. GILBERT ANNOUNCES  
4 ELECTRIC HUMIDIFIERS**

NEW HAVEN, Conn.—Four models of electric humidifiers, which put moisture into the air in homes without heat or steam, have been introduced by the A. C. Gilbert Co.

In operation, the Gilbert humidifier is an inverted cone submerged in water and revolving rapidly, drawing the water up onto a disc above it, which, also revolving rapidly and synchronizing with the cone, throws the water outward by centrifugal force against shutter-like vanes. These break it up into tiny particles that are propelled by the revolving disc, and rising are absorbed by the atmosphere.

The moisture, thrown in the form of unheated vapor, is absorbed into the air. Under average conditions it is claimed that the Gilbert humidifier will maintain the moisture content at a point between 40 and 50 per cent.

All models are powered by Gilbert universal motors which operate on either a. c. or d. c. current. The machine may be plugged into any wall socket.

A speed control provides regulation of the speed and amount of moisture thrown into the air. The B185 model

**Sturtevant-Maine  
Refrigerator  
Appears**

NASHUA, N. H.—A twin-cylinder compressor unit has been designed by B. F. Sturtevant Co. of Hyde Park, Mass., engineers, in collaboration with The Maine Mfg. Co., a local firm which recently has launched on the market the White Mountain electric refrigerator.

The unit has one oiling point which needs attention only once in six months, Sturtevant engineers claim, and then a postal reminder is mailed to the owner. There are no belts or gears. The unit is placed in the top of the refrigerator, and can be removed or replaced in two minutes, according to claims of the manufacturer.

is equipped with a standard automatic humidity control, which starts the humidifier when the room humidity falls below the health range, and shuts off when the room humidity rises sufficiently.

The units hold one gallon of water, which can be distributed into the air in about 3½ hours.

**MERCOID REFRIGERATION  
CONTROL  
No. 858—Model LL-1****DEPENDABLE****DEPENDABLE TEMPERATURE CONTROL  
FOR ELECTRIC REFRIGERATION UNITS**

Mercoid No. 858—Model LL-1—is an accurate, dependable temperature control, easily adjustable at the time of installation with freedom from service. It is designed especially for temperature control on electric refrigeration units such as domestic boxes, florist cases, water coolers, food display cases, milk coolers, fur storage rooms and general commercial work. It is fully described in a special bulletin. Send for a copy, or give us an outline of your problem and our engineers will send you special information.

**DETROIT LUBRICATOR COMPANY**

Trumbull, Lincoln, Marquette & Viaduct  
DETROIT, Mich., U. S. A.

Lubricators • Carburetors • Valves  
Automatic Controls for temperature, pressure, humidity  
Refrigeration, Oil Burner and Heating Accessories.

Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

**SPARTON IMPROVING  
MANUFACTURING LINE**

(Concluded from Page 1, Column 1)  
the plant on a straight-line production plan.

Steam heated dehydrating ovens have been installed into which racks loaded with 16 compressor units each are charged, and the units given an eight-hour "bake" with a 29-in. vacuum pulled.

**Efficiency Tests**

Assembled compressors are clamped on newly-built "oil jacks" and given 12 or more hours of running in. Following this, the assemblies are tested for volumetric efficiency and wattage consumption.

After the machines are charged with sulphur dioxide from a new charging board, they are placed on a "pull-down" test where they are required to pull a vacuum and cycle automatically as if in actual operation. Compound recording gauges, installed above the machine mountings, indicate the compressor performance during these tests.

**Parts Manufacture**

Already such parts as compressor seals, liquid receivers, condensers, compressors, and other components are in regular manufacture throughout the plant, and eventually the Sparton executives expect to build everything for their refrigerator. Facilities have been arranged so that additional workers can be trained, and production increased to meet demands.

To keep parts and materials standardized, a chemical laboratory has been placed in charge of a chemical engineer, and a large room has been fitted with steel hardness testers, etc., for inspection of equipment.

**National Technical  
Institute Expands  
Laboratory**

CLEVELAND—Added courses and enlarged laboratories are described in the 1932 prospectus of the National Technical Institute, Inc., of this city. The institute offers two courses in mechanical refrigeration, one a four-month day course, and the other a night course which takes nine months.

Subjects of study include principles of refrigeration; refrigeration mathematics, air circulation, heat measurement, heat transmission, refrigerants, principles of mechanical drawing, compressors, expansion valves, brine systems, floats, controls, practical electricity, installation work, maintenance and repairs, absorption systems, estimating, air conditioning, and business management.

**GIBSON DISTRIBUTORS HOLD  
FACTORY SERVICE SCHOOL**

(Concluded from Page 1, Column 3)

Chicago; Richard D. Garr, William A. Shafer, Thomas H. Gage, and A. J. Natho, Peerless Electric Co., Indianapolis; Arthur E. Nebbelin, Conron Distributing Co., Peoria, Ill.; George F. Hewitt, Capital City Distributing Corp., Albany, N. Y.

H. J. Walters, Walter & Hemming, Traverse City, Mich.; Isaac Chavaux, Lindeman-Hoffer, Inc., St. Louis; A. E. Martin, Keith-Simmons Co., Nashville, Tenn.; Joseph S. Gibson, Greenville, Mich.; Robert H. Wilson, Belding, Mich.; L. J. Weeks, W. G. Burkett, A. G. Bernard, and Carleton Fisher, all of Greenville, Mich.

**HUMIDIFIERS DESIGNED BY  
AMERICAN RADIATOR CO.**

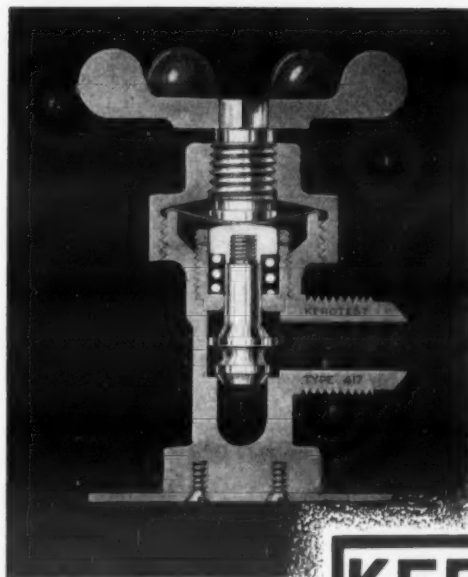
NEW YORK CITY—A line of "Cascade" humidifiers, built in aluminum cabinets, and equipped with Arco humidistats, have been introduced by the American Radiator Co.

Cascade humidifiers are composed of individual sections connected by threaded nipples in the same manner as a radiator, and which evaporate the water spread over their heating surfaces. Steam or hot water enters at the base or top, and circulates through the entire stack of sections, creating heated surfaces.

City water is supplied at the top, through a special strainer, and is caused gently to spread over the heating surfaces of each section, at a controlled rate. From these heating surfaces it is evaporated, and the moistened, warm air diffuses into the atmosphere of the home, American Radiator engineers claim.

Each model is equipped with the Arco humidistat—a device actuated by the amount of moisture in the air.

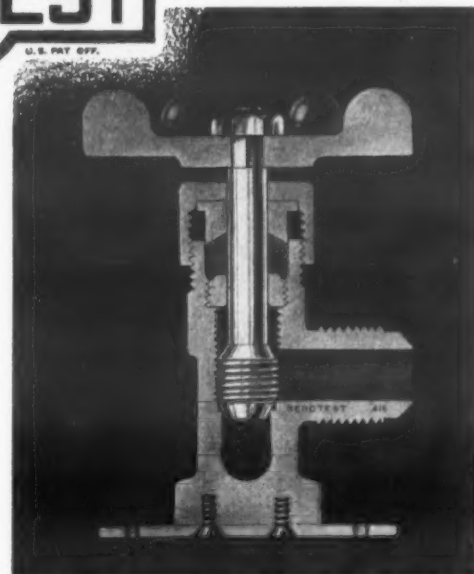
*Good valves and fittings  
reduce the upkeep  
of those 3 year  
guarantees*

**KEROTEST**

Every single part of a modern refrigerator must be 100 per cent to merit a three year guarantee. That is why you can rely implicitly on all Kerotest Refrigerator Valves to do their full share in maintaining the highest standard of refrigerator service.

Every Kerotest Valve is made to sell on a performance basis, not price,—every valve is individually tested and inspected,—the two styles of valves illustrated herewith meet the full approval of the Underwriters Laboratories.

Whatever may be your requirements in refrigerator valves you can always rely on KEROTEST—a pioneer manufacturer of quality valves exclusively.

**KEROTEST MANUFACTURING COMPANY, PITTSBURGH, PA.****Distributors**

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## ENGINEERING SECTION ELECTRIC REFRIGERATION NEWS

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ELECTRIC REFRIGERATION NEWS is published every week.  
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### Speeding Production

RECORDS of last year's sales departments have encouraged many manufacturers of both complete refrigeration systems, and suppliers of the component parts and materials, to expand their production facilities for the season now approaching.

In addition to greater output, lower unit costs of production and greater standardization of parts are results sought by these manufacturers.

Instrumental in the application of straight-line methods in refrigeration manufacture has often been the influence of automotive production technique. This has been particularly true in the plants of automotive suppliers that have turned to the electric refrigeration industry for additional outlets for sheet metal products, automatic screw machine pieces, and machined steel parts that they are equipped to make.

### Reliable Suppliers

The growth of responsible suppliers, in fact, has been one of the important contributing factors to the development of refrigeration in the past few years. These companies have specialized in the design and manufacture of parts and materials, making them on a large-scale low-cost basis to designs that have proved good.

These products have become so well accepted in the industry as "standard" that it is now possible for a new company to start up in the business of assembling refrigerators with well-known parts, without first going through all the work of designing and establishing production on them.

### Improved Assembly Technic

Manufacturers of complete systems have also made strides in the utilization of mass production methods, training workers and specializing their operations, installing conveyor systems to bring parts and materials to the assembly line at the right time, and adapting general purpose machines to single-purpose work.

Among the important benefits that complete system manufacturers derive from improved production lines are lower unit costs, better standardization and quality control, reduced stocks of parts and materials, ability to meet shipping promises more promptly through scientific production control, and often higher wages for workmen made possible by their increased unit output.

### Lower Retail Prices

Reductions in retail prices of 1932 models, which have accompanied a good many recent announcements, are to some extent indicative of production economies which manufacturers are passing on to the consumer.

Price reductions possible through more efficient manufacturing processes open up new markets for refrigeration in the less expensive homes, and help the manufacturer to increase sales and, consequently, production—a very desirable train of events.

Factory engineers report that through standardization of sizes, and by working to close dimensional limits with single-purpose machinery, they have accomplished interchangeability of certain machined steel parts.

The interchangeability feature not only simpli-

fies production by the elimination of certain fitting and matching operations, but assists the service department in that replacement parts can be shipped into the field with considerable assurance that they will fit, the engineers explain.

### Started Too Fast

One of the criticisms of the pioneer manufacturers of electric refrigerators was that in one or two instances they installed production equipment in excess of that justified by the public acceptance of refrigeration at that time, with the result that their plants were seldom run at full capacity, the excess capacity representing an economic waste.

Another criticism of some early manufacturers was that they invested heavily in tools and machinery for a given refrigerator design before that design was sufficiently perfected.

Ed Hughes, vice president in charge of Copeland production, whose plant is considered one of the best in the industry from the production standpoint, has made quite a study of the economics of refrigerator manufacture.

### Economical Tooling

He claims that some production managers, anxious to employ modern, high-speed equipment, go too far in special tooling for parts which are not needed in large quantities. In many instances, he declares, a factory manager can save money by expending more for direct labor and less for special tools and machines.

Mr. Hughes has worked out charts for the various parts made in the Copeland plant, showing where increased production on a part will justify additional tooling expense for the reduction of direct labor costs. Of course, for parts that are "rumbled" through the plant in large quantities, he can exhibit fast-operating machines that produce parts with a small direct labor cost.

## GLEANINGS FROM RECENT PERIODICALS

### AIR CONDITIONING A NEWSPAPER PLANT

WITH plans adapted from the experiences of some of the most successful newspapers in the nation, and with many innovations especially applied to its own problems, the *St. Louis Globe-Democrat* complete in November a new building which has revolutionized newspaper production for that publication. The plant occupies almost an entire city block.

The major portion of the building is heated by means of direct radiation. Due to the fact, however, that it was necessary to humidify as well as heat the main press room, this portion of the building is served by an indirect system.

Static electricity is a problem in unconditioned press rooms. When a press must be re-threaded because of a break in the paper due to static, time is consumed. And time is one of the most valuable factors in newspaper production.

Therefore, there has been installed in the sub-basement an air washer having a capacity of 80,000 c.f.m. The heating coils of the air washer are automatically controlled from a thermostat located in the press room to maintain an even temperature.

The air washer is provided with two sets of sprays, one controlled by a manual control valve and the other controlled by an air-operated diaphragm valve which is controlled by a humidostat in the press room. A constant temperature of 70° F. and a relative humidity of 58 per cent is maintained in the press room. With evaporative cooling, a differential temperature of 10° F. is expected in summer.

It is the intention to recirculate approximately 65 per cent of the air and admit 35 per cent fresh air. All regulating dampers are controlled by thermostats in order that they will function automatically.

Due to the large quantity of air handled, the circulating ducts are very large. It will be noted that it was necessary to make the large recirculating ducts from the press room shallow and wide in order to allow sufficient head room for storage purposes.

In addition to the ventilating of the press room, there has been provided a ventilating system for the stereotype department, the dark rooms and the etching room.

In the stereotype department suitable ducts and vent openings were installed, leading to an exhaust fan in the pent house, which is operated by remote control from the stereotype room. Its function is to remove all gases and fumes incident to the operation of the stereotype equipment.

Due to the presence of acid fumes in the etching department, the fan and all ducts were constructed of 18 per cent chromium—8 per cent nickel alloy. The discharge from the fan passes through a 12-in. vitrified clay duct, extending from the etching room to the roof.—Joseph A. Osborn, consulting engineer of St. Louis, in *Heating, Piping and Air Conditioning*, January, 1932.

### AUSTRALIAN PROGRESS

FOR the past 50 years the Australian manufacturer has consistently held his own with the rest of the world in the design and construction of refrigeration equipment. Australian engineers pioneered the refrigerated ship, and the rapid growth of our vast butter and meat industries has provided ample scope for the local manufacturer of ammonia type equipment.—*Refrigeration, Cold Storage and Air Conditioning* (published in Australia), November, 1931.

## Solid CO<sub>2</sub>, Absorption Principle Used In New German Refrigerators

By J. G. Praetz, Jr.

In Charge of Refrigeration, Wentworth Institute, Boston

WHILE studying refrigeration developments in Europe this past summer I ran across two very interesting refrigerator boxes for domestic use, one utilizing solid CO<sub>2</sub> as the refrigerant, the other using the absorption principle in a very different manner from anything yet introduced in this country.

This latter machine was just introduced to the public in September, 1931, and it was most difficult due to the newness and departure in design to obtain much information on the unit even at the factory near Berlin, Germany, where the engineers in charge of the development were absent on a business trip.

The solid CO<sub>2</sub> refrigerator resembles the general outline of the General Electric refrigerator, but its smooth, round dome contains solid CO<sub>2</sub>. The cylinder of solid CO<sub>2</sub>, 7 in. in diameter and 12 in. high, which is used to charge the refrigerator, represents 10 kilograms (22 lbs.). This amount lasts approximately one week under normal conditions, and costs \$0.87 at prevailing exchange rates of last summer.

### Local Agency Sells Solid CO<sub>2</sub>

The solid CO<sub>2</sub> is purchased from the refrigerator sales agency where a small portable machine was set up to make solid CO<sub>2</sub> from the gas in storage cylinders. The temperature maintained in this box varied from 2°C to 4°C (approximately 36°F. to 39°F.).

The desired temperature within the box was obtained by removing or inserting thin wood disks about 3/16 in. thick and 6 in. in diameter under the cylinder of solid CO<sub>2</sub>, thus regulating the amount of insulation between the refrigerant and the storage compartment.

The dome is made of typical thermos bottle construction, with an evacuated space confined between two thin glass walls, the walls being silvered from within to cut down the loss of heat to the refrigerator. The lower projecting rib of the dome is protected by a metal band, the band being vented with several holes to permit the CO<sub>2</sub> gas to escape to the inside compartment, the food storage space.

### Says CO<sub>2</sub> Helps Preservation

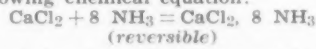
This gas, of course, spills out into the room when the refrigerator door is opened. The CO<sub>2</sub> gas has no detrimental effect on the food in the box for carbon dioxide is odorless, tasteless and colorless. It tends to assist in the preservation of the food due to the fact that it prevents the oxygen of the air from coming in contact with the foodstuffs, thereby to some degree preventing oxidation.

The refrigerator was made with approximately the following inside cubical volumes: 1.6 cu. ft., 2.4 cu. ft., and 4.5 cu. ft., costing in marks 330, 360 and 430 (\$82.50, \$90 and \$107.50) and using respectively 8, 10 and 12 kilograms of solid CO<sub>2</sub> per week.

The absorption type of refrigerator is probably different from anything ever marketed in this country, in that it makes use of the fact that calcium chloride (CaCl<sub>2</sub>) has an even greater affinity or attraction for ammonia (NH<sub>3</sub>) than it has for water.

### Calcium Chloride and Ammonia

The use of calcium chloride as a drying agent for gas is generally known, and also for liquids containing water. The ability of calcium chloride to combine with ammonia is shown by the following chemical equation:



A study of the combining weights for the above equation indicates that for every pound of CaCl<sub>2</sub> which we have, approximately 1 1/4 lbs. of NH<sub>3</sub> will combine with it. Further, the fact that the equation is reversible indicates that the change will go in either direction giving off heat or taking on heat as the case may be.

If the combination on the right side of the above equation is heated, it will break down into CaCl<sub>2</sub> and NH<sub>3</sub> the latter passing off in the form of a gas which under correct conditions of pressure and temperature may be condensed into the form of liquid.

The generator for this machine contains the CaCl<sub>2</sub> 8NH<sub>3</sub> mixture which is heated by means of an electrical resistance unit. The NH<sub>3</sub> gas which is driven off passes down through the condenser where liquefaction occurs, and the liquid NH<sub>3</sub> then passes to a receiver and thence to the evaporator.

This process of heating continues for 4 1/2 hours when the electricity is shut off automatically. The process of re-absorption of the NH<sub>3</sub> gas begins, the gas being formed due to the evaporation of the liquid NH<sub>3</sub> in the evaporator, cooling the brine and the box by the absorption of the latent heat of the NH<sub>3</sub>. The evaporation continues over the remaining 19 1/2 hours of the day, when the heating reoccurs and the cycle repeats itself.

There are two generators, or "cook-

ers" as they are called in Germany, side by side at the highest point in the system. These cookers discharge into six large air cooled condensers of the radiating fin type, the condensers being arranged in series. The last condenser discharges into the receiver from where the liquid NH<sub>3</sub> passes into the evaporator. The evaporator is surrounded by a brine

### Absorption System

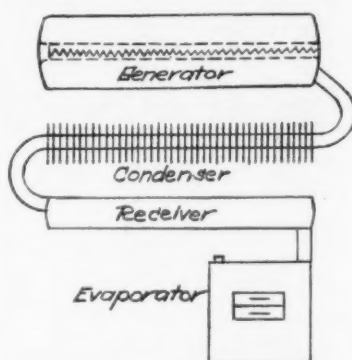


Diagram of electrically operated German domestic absorption system.

tank which acts as a cold storage reservoir giving up its supply of cold during the 4 1/2-hour heating period of the cookers.

The turning on and off of the current to the heating coils is accomplished by means of an electrical automatic clock switch which cuts in at 10 p. m. every night, and shuts off at 2:15 a. m. This time was chosen in order to obtain the night current rates which are lower, and because that was considered the time when the refrigerator door would be opened the least and consequently the heat loss would only be through radiation.

By using this night power, a special rate is obtained of 6 pfennigs (1 1/2 cents) per kilowatt hour, making the cost of operating the unit in the height of summer about 33 pfennigs (8 1/2 cents) a day.

### Variable Resistance Control

A temperature controller to vary the amount of heating to that required for winter and summer operation is provided in the form of a variable resistance switch mounted on the front outside of the box directly above the door. This control has four positions, "off," 650 watts, 900 watts, and 1,300 watts—the latter being the position for warmest summer operation when a maximum of refrigeration is required.

The amount of heating varies the amount of ammonia driven off from the calcium chloride and consequently the amount of refrigeration produced. The time of operation remains the same for all heating positions, but the rate of heating is varied by the position of this switch.

The unit itself is without moving parts, has no valves, and is sealed up as far as the refrigerant is concerned. It uses only one source of power electrical heating which is noiseless and clean. Cooling is by air.

The electric switch is the only part which might require service, and this piece is well designed.

The refrigerator is made only in the 4 1/2-cu. ft. size and costs 660 marks (\$165) with an additional cost of 60 marks (\$15) for the electric switch device. The box stands 5 1/4 ft. high, 2 1/2 ft. wide, and 2 ft. deep. The evaporator itself occupies a space of about 1/2 cu. ft. within the storage compartment.

## BUREAU OF STANDARDS TO DESCRIBE ACCURATE METER

WASHINGTON, D. C.—A new instrument of what is called the "composite-coil" type, particularly suited for measuring alternating current, voltage, or power with extreme accuracy, will be described by the Bureau of Standards in the coming issue of its *Journal of Research*.

This new instrument is about 10 times as accurate as the high grade portable instruments now available, according to the Bureau of Standards.

In certain cases, as, for instance, when a large electric generator is being tested to determine if its efficiency comes up to the contract requirements, the economic importance of accurate measurements may become very great, the bureau points out.

While larger and more expensive to manufacture than the ordinary portable instrument, the new instrument is sufficiently rugged to be useful in power plant testing, and the precautions required in operating it are not materially more elaborate than those involved in similar measurements of direct current by means of the potentiometer, the description will say.



## REFRIGERATION CYCLE HEATS NEW BUILDING

(Concluded from Page 1, Column 5)

in the building would more than counterbalance this one advantage.

Each compressor consists of a pair of herringbone gears rotating in a casing with small clearances. The clearance spaces are sealed with glycerine which is pumped through the compressor with the refrigerant separated out in the condenser, and recirculated.

Four condensers are installed, each with a surface of 2,790 sq. ft. Two 40-hp., 900 g.p.m. pumps supply condensing water, forcing it to two special air washers used as cooling towers on the roof of the building.

A 50-hp. fan with a capacity of 130,000 c.f.m. is built into each washer. A maximum cooled effect is produced by a duplicate set of nozzles with which each air washer is equipped and the water is passed through the two sets in series. When the maximum effect is desired a separate pump is operated to force water through the second set of nozzles.

Air washers for the basement, tower and auditorium systems are installed on different levels. On this account it is necessary to operate a separate cooler for each system, as the cooled water cannot be distributed satisfactorily at three different pressures from a single source.

All coolers are of the same height and set at the same elevation. They are of the specially designed vertical tube type. This economic arrangement permits each cooler to be supplied with refrigerant from a common source.

The liquid refrigerant passes from a liquid receiver under the condensers, through an expansion valve into a vertical accumulator, thence from the bottom of this accumulator the liquid flows to each cooler.

Gas from the tops of the coolers is piped to the top of the accumulator and at this point, is connected the suction line to the compressors.

For each cooler a separate pump circulates the air and water through the cooler to the air washer. A thermostatically operated valve to by-pass the water around the cooler is controlled by the water temperature.

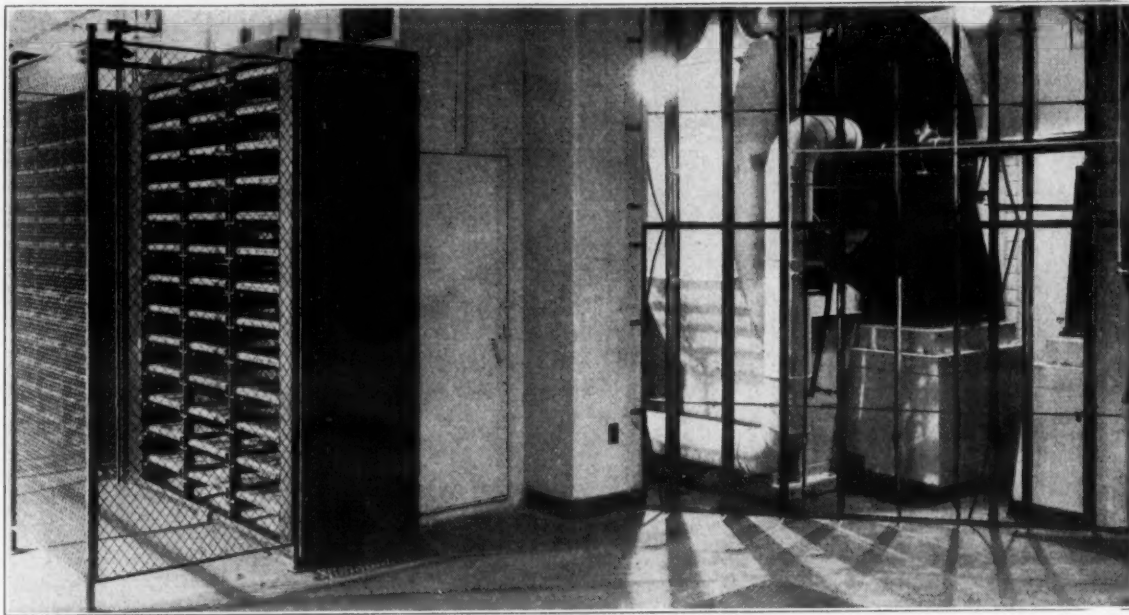
A central control unit, consisting of a thermometer inserted in the central tube of the basement cooler, automatically cuts the four refrigerating compressors in or out as the load requires.

The liquid temperature is maintained in this manner with a variation of only one degree, Mr. Doolittle claims. This also energizes control circuits which start up the synchronous motor exciters, cooling tower pumps, fans, etc., in the required sequence, and according to the number of compressors operating.

Provision has been made to experiment with the use of refrigeration equipment for heating. According to Mr. Doolittle this idea has been in the process of development for some time, but has never been tried on a large scale.

A fin tube heater has been installed in the tower system for circulating the condenser water in winter. In order to heat to 80°F. the air supplied to the building, a water inlet temperature to the heater of 90°F. is necessary. To

## Reversing Refrigeration for Heating



At the left are banks of heating units in the new all-electric California Edison Bldg., Los Angeles, in which the upper six floors are being heated by the reversed Carnot cycle.

provide this temperature a head pressure on the compressor of 92 lbs. is required, he explains.

A regulating valve in the water supply, operated in the discharge of the compressors, maintains this water temperature of 90°. A rise in pressure increases the amount of water to the condenser and a drop in pressure decreases the water. Operating at this higher head pressure, 600 hp. is required to drive three compressors and 60,000 B.t.u. per minute is made available for heating the building.

Mr. Doolittle points out in explanation of the system and its intended operation that for winter heating the heat is absorbed from the atmosphere, accomplished by circulating water from the coolers through the cooling towers on the roof.

Further, that the water must be below the wet bulb temperature to absorb heat from the air in this manner. During the heating period it is not considered desirable to use brine in the coolers. The lowest safe temperature for the cooler water of 35° F. is thus fixed. Allowing a 5° F. rise in the cooling tower, and a temperature difference between air and water of 2° F., a minimum wet bulb temperature of 42° F. is obtained, below which the refrigeration heating system will not operate, he reports.

As the Weather Bureau records show that the wet bulb of Los Angeles rarely drops lower than this, it is felt that this does not impose any serious limitation upon the system.

Regarding the operation of the refrigerating heating system Mr. Doolittle says, "this system has been working several weeks this winter with entire satisfaction. However, as it is applied to the top six floors of the building only, we are not obtaining as much benefit as we would if the entire build-

ing were so equipped. We have had no trouble whatever with the equipment and find that the operating ratio is between 2:1 and 3:1."

"All fans," he says, "are driven by variable speed motors with cog-belt drive. The air is passed through multi-panel air filters and treated for the removal of odors. Water supplied the washers is automatically maintained at the proper temperature for humidity control."

"The air washers and heaters are bypassed with automatically operated

dampers. The air washers and cooling equipment are proportioned to maintain a building temperature 15 to 20° below the outside temperature."

The duct system is so arranged that air can be supplied through a register near the ceiling and exhausted at the floor line, or the reverse if desired. It has been found most satisfactory, however, to supply both heated and cooled air at the ceiling, as this results in a minimum of drafts. For the proper operation of the system all windows must be closed, Mr. Doolittle concludes.

## NAPRE CONVENTION IN WEST DRAWS 190

SAN FRANCISCO—With a registered attendance of 190, the 1932 convention of the Pacific Coast Chapters (embracing Washington, Oregon, and California) of the National Association Practical Refrigerating Engineers met in the Civic Auditorium, here, Feb. 17 and 18.

Talks were delivered by Prof. M. A. Joslyn of the University of California, Berkeley, who spoke on "Quick-freeze Methods of Preserving Foodstuffs;" Harry T. Holbrook of the Union Ice Co., whose topic was "Methods of Checking and Analyzing Commercial Can Ice Manufacturing Plants;" H. L. Lincoln of the Union Ice Co., San Francisco, "Corrosion Control in Refrigerating Plants;" W. A. Chowen, manager, California Inspection Rating Bureau, "Compensation Rates;" Le Roy Etzel, district engineer, Pacific Fruit Express Co., Roseville, Calif., "Operation of Car Icing Plants."

Those who entered the discussion included: E. T. Quinn of the Pacific Fruit Express Co., Los Angeles; Frank Hibbs, Gay Engineering Co., Los Angeles; Paul Ashley, chief engineer, Fresno Consumers Ice Co., Fresno, Calif.; Nels H. Rosberg, chief engineer, California Consumers Co., Los Angeles; Harry T. Whyte of the Pacific Fruit Express Co., San Francisco; L. I. Denton of the Pacific Fruit Express Co., San Francisco; R. L. Benson, Union Ice Co., Los Angeles; H. G. Mansfield of the Union Ice Co., Los Angeles.

The 1932 officials of the California Chapter No. 1 who were the hosts for this two-day convention are: president, M. E. Bell; vice president, H. T. Holbrook; secretary-treasurer, A. R. Carlson, San Francisco; assistant secretary, W. E. Emsheimer, 301 Brannan St., San Francisco; sergeant-at-arms, Ray Wolf.

It was decided to hold the 1933 convention in or near Los Angeles.

## Years of research... Precision manufacture

that's the quality background of

## FEDDERS Expansion Valves

OVER six years ago, Fedders built its first expansion valves. These were tested in the laboratory and checked in the field. Since then, thousands of refrigerators have been built and sold with Fedders Expansion Valves. And thousands of these valves have been in constant service for three, four and five years.

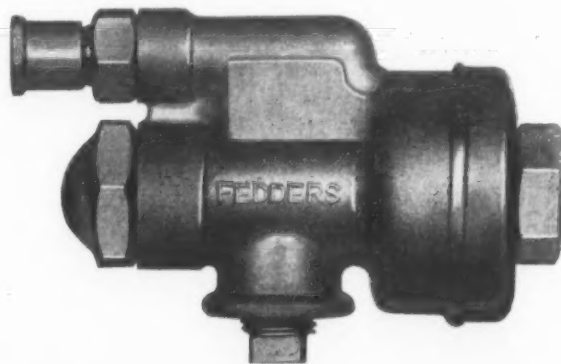
The 1932 models follow the original design—that has been proved through years of service. Yet Fedders development and research has gone on. As a result, these 1932 models incorporate the latest design features of our own engineers, as well as those of noted consulting engineers.

### FEDDERS MANUFACTURING COMPANY

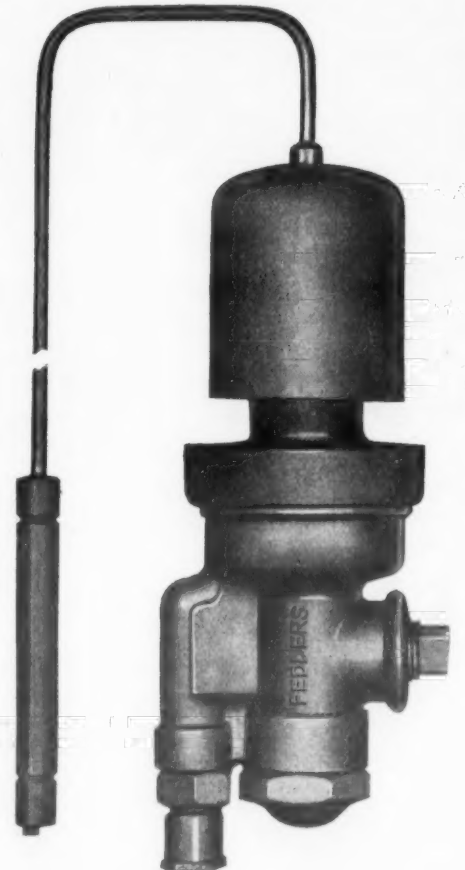
57 Tonawanda Street, Buffalo, N. Y.

EXPORT DIVISION: 116 Broad Street, New York City.

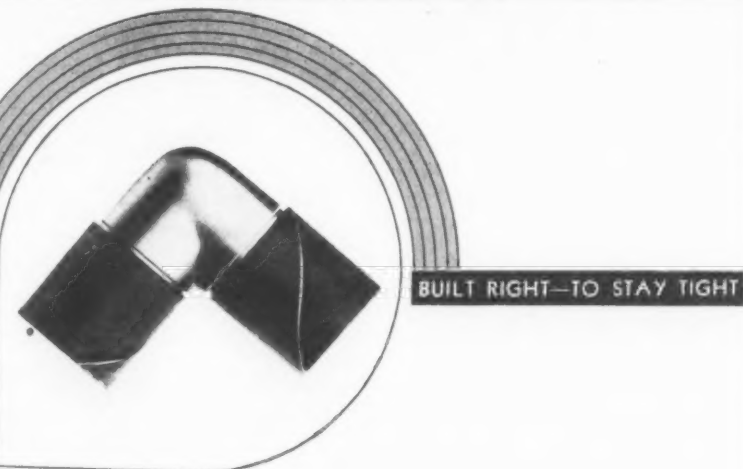
PACIFIC COAST REPRESENTATIVES: Refrigeration Products, Ltd., 1110 North Alameda St., Los Angeles, Cal.



**AUTOMATIC.** Adjustment end sealed to exclude all moisture. Any adjustment will remain the same indefinitely. Bellows motion automatically limited to prevent undue stress. Needle and seat constructed of special alloys that resist both corrosion and erosion. Needle, guided by two pins, cannot rotate nor tip. Alloy body forged to eliminate pore leaks. Adjustable, by a simple change of springs, from absolute vacuum to 30 pounds pressure.



**THERMOSTATIC.** Fedders Thermostatic Expansion Valve is identical in sound design and sturdy construction with Fedders Automatic Expansion Valve. A thermostatic power element simply replaces the adjusting screw. Adjustable cap permits evaporator operation over 45-degree temperature range. Any desired suction pressure can be obtained. Automatically allows the correct amount of refrigerant to enter the evaporator, depending upon the temperature desired at the point where the bulb is clamped.



## PROTECTED SEATS ASSURE EXACT FITS

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# REVIEW OF LATEST PATENTS GRANTED

ISSUED FEBRUARY 16, 1932

1,844,932. COMBUSTION REFRIGERATION APPARATUS. Lee S. Chadwick, Shaker Heights Village, and Marc Resek, Cleveland Heights, Ohio, assignors to Perfection Stove Co., Cleveland, Ohio, a Corporation of Ohio. Filed June 28, 1929. Serial No. 373,740. 12 Claims. (Cl. 62-118.)

1. In refrigeration apparatus of the intermittent absorption type, the combination of a cabinet enclosing the refrigeration com-

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## PATENTS

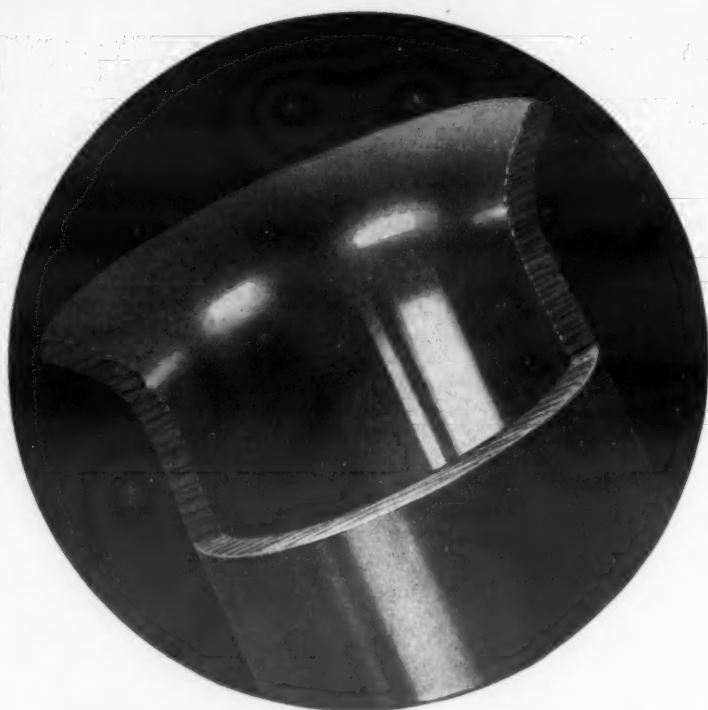
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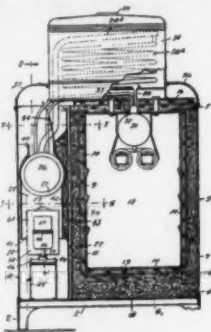
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partment, a casing joined to one side of the cabinet and constituting with the cabinet a unitary structure, said casing enclosing a combustion chamber, a generator-absorber in the combustion chamber, an evaporator in the refrigeration compartment, communicative connections between the generator-absorber and evaporator, a combustion device situated within the lower



1,844,932

portion of said chamber in operative relation to the generator-absorber and a shield between the combustion space of said chamber and the adjacent wall of the cabinet and spaced from the latter to provide an air space between the shield and wall.

1,844,999. BRINE FOR REFRIGERATING AND OTHER USES. Arthur C. White, Midland, Mich., assignor to The Dow Chemical Co., Midland, Mich., a Corporation of Michigan. Filed Nov. 26, 1924. Serial No. 752,448. 4 Claims. (Cl. 252-5.)

1. A non-corroding brine for refrigerating and other uses comprising an aqueous solution of calcium chloride together with zinc chloride in the proportion of about one per cent of the amount of the calcium chloride.

1,845,060. REFRIGERATING SYSTEM. Albert C. Schickler, Cleveland, Ohio, assignor to Edmund E. Allyn, Cleveland, Ohio. Filed Oct. 27, 1926. Serial No. 144,461. 6 Claims. (Cl. 62-120.5.)

1. Absorption type refrigerating apparatus, comprising a still-absorber, a condenser, an evaporator, a drainage conduit from the bottom of the evaporator capable at all times of completely draining the evaporator, said conduit including communicating chamber parts containing a liquid heavier than any of the liquids in

said apparatus unaffected by any of the gases or liquids in said apparatus and arranged in two columns which permit free drainage from the evaporator of undesirably present absorbing agent but prevent drainage of useful refrigerant.

1,845,256. HEAT EXCHANGE DEVICE. Harvey Feldmeier and William Astle, Little Falls, N. Y., assignors to Cherry-Burrell Corp., Little Falls, N. Y. Filed March 14, 1930. Serial No. 435,734. 17 Claims. (Cl. 257-247.)

1. In a heat exchange device, the combination of a plurality of units arranged one above another, each unit comprising front and rear headers, outer tubes connecting said headers and arranged in different banks, with the tubes in different banks oppositely inclined, said headers having passages for the circulation of a medium through said tubes, internal tubes arranged in said outer tubes, and return connections joining said internal tubes end to end, the return connections between the internal tubes of each unit and between the bottom tube of one unit and the top tube of the adjacent unit being of like dimensions and all being uniformly inclined.

1,845,355. NONINFLAMMABLE REFRIGERANT. Edward E. Sorensen, Detroit, Mich., assignor, by direct and mesne assignments, to Paul F. Scholbe, Detroit, Mich. Filed Aug. 10, 1928. Serial No. 298,879. Renewed Oct. 7, 1931. 4 Claims. (Cl. 252-5.)

1. A new product for use as a refrigerant, comprising ethyl bromide and ethyl chloride.

1,845,356. REFRIGERANT. Edward E. Sorensen, Detroit, Mich., assignor, by direct and mesne assignments, to Paul F. Scholbe, Detroit, Mich. Filed Aug. 24, 1928. Serial No. 301,939. Renewed June 29, 1931. 5 Claims. (Cl. 252-5.)

1. A new product for use as a refrigerant, comprising alcohol and diethyl carbonic ester.

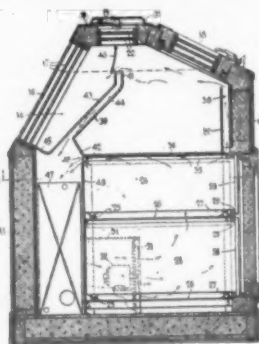
1,845,468. REFRIGERATOR SHOWCASE. Joseph Woolf, San Francisco, Calif. Filed May 5, 1930. Serial No. 449,870. 4 Claims. (Cl. 62-89.5.)

1. A refrigerator showcase comprising a case having a transparent front; a brine tank mounted longitudinally within the case; a plurality of air flues formed transversely through the tank; a refrigerating coil mounted within the tank to cool brine therein, said coil having progressively increasing numbers of turns between successive flues from the intake to the outlet end of the coil; and a display rack mounted within the case to support products to be displayed in spaced relation to the bottom and walls of the case whereby air moving past the tank may circulate under and around said products.

1,845,640. COOLER. Ernest W. Wescott, Niagara Falls, N. Y., assignor, by mesne assignments, to Stator Refrigeration, Inc., a Corporation of Delaware. Filed Jan. 25, 1927. Serial No. 163,371. 17 Claims. (Cl. 62-126.)

1. A cooler for refrigeration, comprising a container, an outlet near the upper end thereof and an inlet near the lower end thereof, and baffle plates to aid circulation of refrigerant in a predetermined manner between the inlet and outlet, said baffle plates forming a comparatively short passage between the inlet and outlet and a comparatively long passage between the outlet and inlet respectively.

1,845,682. REFRIGERATED DISPLAY CABINET. Alonzo W. Ruff, York, Pa., assignor to York Ice Machinery Corp., York, Pa., a Corporation of Delaware. Filed May 8, 1931. Serial No. 536,027. 5 Claims. (Cl. 62-37.)



1,845,682

1. In a refrigerated display cabinet, a longitudinal vertical partition therein, said partition being spaced from the front wall of the cabinet and terminating below the top thereof; a heat exchange element substantially filling the space between said front wall and said partition; and a fan for circulating air downwardly through said space and into the rear portion of the cabinet.

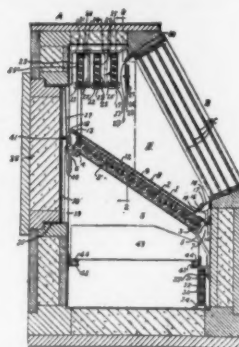
1,845,750. COOLING MECHANISM. George A. Hillery, New Orleans, La. Filed Sept. 27, 1930. Serial No. 484,881. 6 Claims. (Cl. 261-116.)

1. An apparatus for the purpose set forth comprising a casing, a false ceiling within the casing having a free end spaced from the front end of the casing, a deflecting plate above said ceiling and converging toward the free end of the same from an upper rear corner of the casing, means for admitting air to the casing above said deflecting plate, and means for discharging a cooling agent into the air under pressure whereby to accelerate the circulation of the same, the air and cooling agent flowing over said deflecting plate and back under the false ceiling to a discharge opening in the casing.

1,845,850. REFRIGERATION. Folke Emil Sellman, Scarsdale, N. Y., assignor to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed Sept. 13, 1930. Serial No. 481,621. 8 Claims. (Cl. 62-1.)

1. A lens block chiller comprising a chilling unit, a casting supported on said chilling unit in good thermal contact therewith and provided with a rim for retaining a cooling liquid, and means for supporting lens blocks in the liquid for chilling the same.

1,845,888. REFRIGERATED CASE. Donald E. Rutishauser, St. Louis, Mo., assignor to Hussmann-Ligonier Co., St. Louis, Mo., a Corporation of Delaware. Filed Nov. 23, 1930. Serial No. 498,706. 4 Claims. (Cl. 62-89.6.)



1,845,988

1. A refrigerated case comprising a display compartment and a bulk storage compartment, a partition separating said compartments from each other, a door through which access may be had to both of said compartments, a secondary door arranged to close said display compartment when access is being had to said bulk storage compartment, and means for supporting said door for sliding movement.

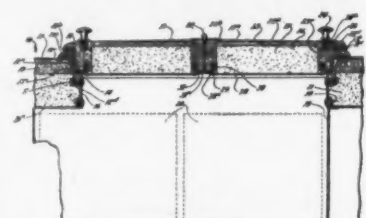
1,846,006. REFRIGERATION. Donald Branch Knight, Brooklyn, N. Y., assignor to Electrolux Servel Corp., New York, N. Y.

Y., a Corporation of Delaware. Filed Aug. 28, 1929. Serial No. 388,881. 9 Claims. (Cl. 62-119.5.)

1. The method of cooling a refrigerating system by an ultimate cooling medium situated below a heat rejecting portion of the system which comprises vaporizing a portion of a heat conveying liquid by heat exchange with the heat rejecting portion, utilizing the vapor to raise the remaining liquid to a higher level, condensing the vapor and circulating the liquid from the higher level by gravity first in heat exchange relation with the ultimate cooling medium and then again in heat exchange relation with the heat rejecting portion of the system.

ISSUED FEBRUARY 23, 1932

1,846,039. COOLER CABINET. Jabez H. Pratt and Franklin B. Hunt, Chicago, Ill., assignors, by mesne assignments, to The Liquid Carbonic Corp., Chicago, Ill., a Corporation of Delaware. Filed March 6, 1928. Serial No. 92,745. 7 Claims. (Cl. 217-7.)



1,846,039

5. A cooler cabinet comprising a metallic top capping having an aperture therein, a ring of molded insulating material engaging said capping and extending downwardly within said opening, and an annular metal

(Continued on Page 7, Column 1)

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# IN FIELD OF ELECTRIC REFRIGERATION

(Continued from Page 6, Column 5)

receptacle wall connected to the lower part of said insulating ring and extending downwardly therefrom, said metallic capping being spaced from said metal receptacle wall by said molded insulating ring.

6. A cooler cabinet comprising a top capping having an opening therein and a cover mounted within said opening, said cover comprising a top wall and integrally formed annular depending walls formed of molded insulating material, other insulating material mounted within said walls beneath said top wall, and a metallic wall for said cover attached to the lower edge of said annular wall.

1,846,056. EVAPORATOR CONSTRUCTION. Julius F. Holmes, New York, N. Y., and Stephen M. Martin, Morristown, N. J., assignors, by mesne assignments, to Julius F. Holmes, New York, N. Y. Filed June 19, 1928. Serial No. 286,596. 4 Claims. (Cl. 62-95.)

1. In a chilling unit for mechanical refrigerating systems, the combination comprising an annular cylindrical evaporating chamber, and a brine chamber having a cylindrical outer wall arranged to telescope within said evaporating chamber and an inner wall coating with said outer wall to form a prismatic chilling space open at one end.

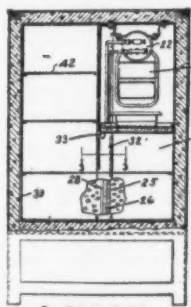
1,846,062. MECHANICAL REFRIGERATING SYSTEM. Stephen M. Martin, Bridgeport, Conn., assignor, by mesne assignments, to Julius F. Holmes, New York, N. Y. Filed Oct. 5, 1928. Serial No. 310,506. 6 Claims. (Cl. 62-126.)

1. In a refrigerating system, the combination comprising a pump adapted to compress refrigerant, a motor for driving the same, a casing hermetically sealing said motor and pump, a condenser having convolutions adapted to be traversed by compressed refrigerant from said pump and provided with heat-radiating fins, a refrigerant receiving and storing chamber secured to said fins and disposed immediately below said condenser.

1,846,062. APPARATUS FOR THE PRODUCTION OF COLD. Walther Dietrich, Berlin-Wilmersdorf, and Klemens Bergl, Berlin-Friedenau, Germany. Filed June 17, 1929. Serial No. 371,633. and in Germany, June 23, 1928. 4 Claims. (Cl. 62-169.)

1. Apparatus for the production of cold on the open circulation system comprising a supply container containing a strong gas-containing liquid, an evaporator continuously supplied with said liquid, a discharge pipe for the impoverished solution leading from said evaporator to a pump and flow retarding means for the liquid associated with said evaporator.

1,846,109. REFRIGERATING APPARATUS.



1,846,109

William C. Holbrook, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire

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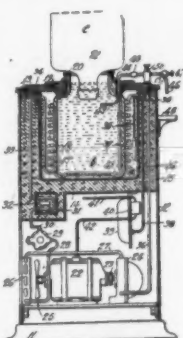
Corp., a Corporation of Delaware. Filed Dec. 29, 1927. Serial No. 243,421. 3 Claims. (Cl. 62-116.)

1. A refrigerator having insulation and a lining therein, a channel adjacent the insulation inwardly indented in said lining throughout one dimension and having an opening and a fluid conduit extending in said channel through part of its length and passing through said opening.

1,846,131. MECHANICAL REFRIGERATING SYSTEM. Stephen M. Martin, Bridgeport, Conn., assignor, by mesne assignments, to Julius F. Holmes, New York, N. Y. Filed Dec. 31, 1928. Serial No. 329,482. 1 Claim. (Cl. 62-95.)

In a mechanical refrigerating system, a chilling unit comprising a substantially plain double-walled metallic casting, said walls being shaped to be reentrant and enclosing a relatively narrow evaporating space, said casting having a prismatic form, the reentrant walls being arranged to envelope a secondary chilling space entered from a side of the casting, the exterior walls being provided with openings, circulating connections being attached to certain of said openings, means for indicating when the system is properly filled in another of said openings, unstanding thickened wall members being disposed over the top and sides of said casting, certain of which are provided with attaching means whereby said casting may be suspended in a refrigerating box, and other thickened wall formations on the exterior of said casting whereby auxiliary mechanisms may be attached.

1,846,190. REFRIGERATING APPARATUS. Harry W. Dyer, New York, N. Y. Filed March 24, 1928. Serial No. 264,488. 16 Claims. (Cl. 62-141.)



1,846,190

1. In an apparatus as described, the combination, a stand with a cover, a porcelain cooling container supported by said stand and having its upper end opening through said cover, an inverted water bottle connected with said opening through a sealed connection and a delivery tube entering the upper part of said container through a sealed connection and extending to substantially the bottom of said container.

1,846,307. REFRIGERATION. Vannevar Bush, Belmont, Mass., assignor to Cambridge Laboratories, Inc., Cambridge, Mass., a Corporation of Massachusetts. Filed Dec. 13, 1927. Serial No. 239,697. Renewed July 25, 1931. 7 Claims. (Cl. 62-119.)

1. A refrigeration system comprising a cooler, a heat dissipator, fluid ducts therebetween, means for circulating refrigerating fluid through the system, and a one-way valve in one of said ducts, said valve comprising a porous plug having on one side, a seal of liquid which will not wet the pores of the plug, thereby permitting a flow of liquid refrigerant from the side of the plug opposite the liquid seal.

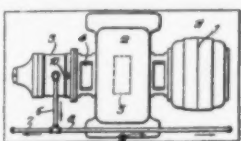
1,846,375. REFRIGERATING PLANT. Lucien L. Torrey, Los Angeles, Calif. Filed Feb. 18, 1926. Serial No. 89,119. 26 Claims. (Cl. 62-115.)

1. In a mechanical refrigerating plant, a hollow base, a condensing coil in said base, a source of power rigidly mounted on said base, a compressor mounted rigidly on said base, power transmission means for connecting said source and said compressor, a ventilating fan and conduit rigidly mounted on and communicating with said base to force a current of fresh cool air over said condensing coil without passing over said compressor, and a pipe connecting the compressor discharge with said condensing coil.

1,846,554. REFRIGERATING APPARATUS. William C. Holbrook, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed April 30, 1928. Serial No. 273,865. 6 Claims. (Cl. 220-9.)

1. A refrigerator cabinet comprising a frame unit and a lining unit for a refrigerated air circulating compartment, the lining unit being insertable in and removable from the frame unit without disturbing the main portion of the frame unit, the lining unit comprising a lining provided with a door opening and a sub-frame for said door opening, said frame unit comprising a frame having a door opening, and insulation and an outer casing on said frame.

1,846,608. HEAT EXCHANGER FOR REFRIGERATING MACHINES AND THE LIKE. George H. Phelps, Warehouse Point, Conn., assignor, by mesne assignments, to Metropolitan Engineering Corp., a Corporation of New York. Original application filed Oct. 12, 1926. Serial No. 141,065. Divided and his application filed Oct. 9, 1928. Serial No. 311,292. 9 Claims. (Cl. 257-39.)



1,846,608

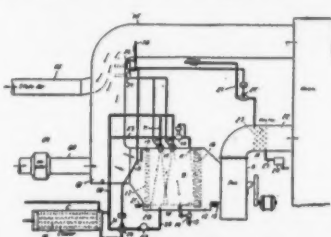
1. A refrigerating apparatus including in combination tubing through which the refrigerant is circulated, an air blower and a radiating structure applied to the tubing

and forming channels for the air, the entrance ends of which channels are adjacent to the exit end of the tubing.

1,846,626. CONTINUOUS ABSORPTION MACHINE. Edmund Altenkirch, Neuenhagen, near Berlin, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a Corporation of Germany. Filed Oct. 24, 1929. Serial No. 402,026, and in Germany Oct. 26, 1928. 10 Claims. (Cl. 62-119.5.)

1. A continuous absorption machine having an absorber and an absorber system, an evaporator and a gas circulating system between the absorber and the evaporator for circulating a mixture of inert gas and gaseous operating medium between the evaporator and the absorber, in combination with a container holding a store of absorption solution and being connected with said absorber system, and means controllable at will for displacing solution from said store through said absorber into said mixture circulating system to throttle the gas mixture circulation therethrough.

1,846,875. AIR CONDITIONING. Alfred D. Karr, Newark, N. J., and Karl D. Perkins, New York, N. Y., assignors to Audifren Refrigerating Machine Co., New York, N. Y., a Corporation of New Jersey. Filed March 4, 1931. Serial No. 519,940. 10 Claims. (Cl. 257-8.)



1,846,875

fren Refrigerating Machine Co., New York, N. Y., a Corporation of New Jersey. Filed March 4, 1931. Serial No. 519,940. 10 Claims. (Cl. 257-8.)

1. The method of cooling and dehumidifying a quantity of air which comprises moving the air through an unobstructed passageway, subjecting the entire volume of air in such stream to the action of a cooling medium in the form of segregated liquid particles in such manner that some of the air in the stream is cooled to a temperature below its dew point and moisture is condensed therefrom while other portions of said air are cooled to a lesser extent, the total cooling effect being insufficient to bring the average air stream temperature down to the saturation value, and varying the degree of dehumidification obtained by varying the surface area of said segregated liquid particles while in heat-exchanging relation with said air stream.

1,846,941. DISPENSING MACHINE. William E. Bihl, and Axel Ramclaw, Chicago, Ill., assignors to Zero-Zone Corp., Chicago, Ill., a Corporation of Illinois. Filed Jan. 22, 1930. Serial No. 422,511. 23 Claims. (Cl. 312-36.)

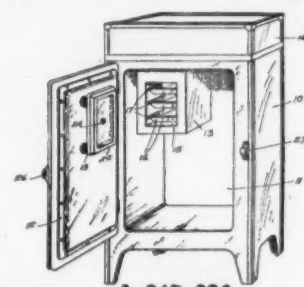
1. In a bottle dispensing machine, a trackway for holding a plurality of bottles in an upright position, a pusher fitted on said trackway and engaging one of said bottles, means for moving said pusher over the trackway to thereby move said bottles thereover, and means on said trackway rotated about stationary axes by said moving means to move said bottles independently of said pusher.

1,846,952. METHOD AND MEANS FOR HUMIDIFYING AND LOWERING ROOM TEMPERATURES. George B. Damon, deceased, Belvidere, N. J., by Bertha W. Damon, administratrix, Belvidere, N. J., assignor of one-third each to Joseph A. Buckwalter, and Abraham L. Buckwalter, Royersford, Pa. Filed Jan. 29, 1929. Serial No. 335,828. 12 Claims. (Cl. 62-81.5.)

1,847,026. SEAL FOR ICE MAKING COMPARTMENTS. Matson C. Terry, Mansfield, Ohio, assignor to Westinghouse Electric & Mfg. Co., a Corporation of Pennsylvania.

Filed Feb. 6, 1929. Serial No. 337,996. 7 Claims. (Cl. 62-116.)

1. A refrigerator cabinet provided with a freezing compartment, a door for said cabinet,



1,847,026

net, and means carried by the door for sealing said compartment when the door is closed.

1,847,057. MECHANICAL REFRIGERATING EVAPORATOR. Alfred W. Mellowes, Milwaukee, Wis., assignor of one-half to Edwin B. H. Tower, Jr., Milwaukee, Wis. Original application filed Feb. 28, 1921. Serial No. 448,412, Patent No. 1,833,846. Divided and this application filed Nov. 23, 1931. Serial No. 576,905. 10 Claims. (Cl. 62-115.)

5. A mechanical refrigerating evaporator, comprising the combination with a liquid refrigerant container having liquid refrigerant delivered thereto and vaporized refrigerant discharged therefrom, of a separating reservoir arranged at the top of said container in communication therewith to receive vaporized refrigerant from said liquid refrigerant container and contains liquid refrigerant with oil commingled therewith and having an oil overflow outlet arranged above the liquid refrigerant and below the vaporized refrigerant therein in a position to discharge therefrom by gravity oil separated by flotation from liquid refrigerant in said reservoir and overflowing into said overflow outlet.



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